

# **Arena Demand and Synergy**

# **1 Credentials of Key Arena Team Members**

- Capital City Partners – Arena Development`
- CSL international – Market and Financial Feasibility
- Arena Architects – HOK
- Arena Builder – Clark Construction
- Arena Operator – Spectra

# **2 Obsolescence of the Richmond Coliseum**

# **3 Market Analysis / Program for a New Richmond Arena**

# **4 Design of the New Richmond Arena**

# **5 Arena-Anchored Mixed-Used Development**

# 1 Arena Credentials





# Michael Hallmark

arena developer – CCP / NHDC

- 33 years dedicated to arena and stadium design / development
- Founder 1988  
Ellerbe Becket Sports (now AECOM)
- Founder 1995  
NBBJ Sports
- Founder 2000  
Future Cities
- Relocated to Richmond 2017





# Michael Hallmark

arena developer – CCP / NHDC

## Municipal / Professional Arenas

Staples Center  
Barclays Center  
Wells Fargo Center  
TD Garden  
Capital One Arena  
Rocket Mortgage FieldHouse  
Moda Center  
Nationwide Arena  
Madison Square Garden Renovations  
Talking Stick Resort Arena  
MGM Grand Arena  
Key Bank Arena  
Show Me Center  
Tax Slayer Center  
Amalie Arena





# HOK

## arena architects

### **Municipal / Professional Arenas**

American Airlines Arena  
AT&T Center Renovation  
BB&T Center Renovation  
Curitiba Arena, Curitiba, Brazil  
Little Caesars Arena  
Mohegan Sun Arena  
Nationwide Arena  
New Palau Blaugrana Arena  
State Farm Arena Renovation  
Rogers Place, NHL Edmonton Oilers  
Seattle NBA Arena  
Sprint Center, Kansas City, MO  
Stockton Arena  
Talking Stick Resort Arena Renovations  
Tucson Arena  
United Center Renovations  
Yas Arena, Abu Dhabi, UAE



# Clark Construction

arena builder

## Municipal / Professional Sports

Chase Center

Wintrust Arena

The Forum Renovations (interior)

Nationals Park

Petco Park

Capital One Arena

USC Galen Center

Save Mart Center

Fed Ex Field

M&T Bank Stadium





# Spectra

arena operator

## Municipal / Professional Arenas

Wells Fargo Center

PPL Center

XL Center

Budweiser Gardens

Singapore Sports Hub

Chartway Arena

Addition Financial Arena

Liacouras Arena

Chaivetz Arena



## 2 Obsolescence of the Richmond Coliseum





# RICHMOND COLISEUM

**Largest Indoor Seating Capacity in the State**



**750,000 Entertainment Starved People**

For Detailed Information Contact:

Larry S. Thomas, Coliseum Manager

1000 East Marshall Street, Richmond, Virginia 23219

(703) 649-5451

**OPENING TUESDAY, AUG. 24, 1971**

## YOU PROMOTE OR WE PROMOTE

- ARENA SEATING—12,226
- FIXED—9,226
- PORTABLE—3,000
- ICE RINK—200' x 85'
- EXHIBIT HALL—15,390 sq. ft.
- ARENA FLOOR—220' x 108'
- OVERALL EXHIBIT AREA—  
44,132 sq. ft.
- PORTABLE STAGE—56' x 32'

The more than 12,000 armchair-type seats are placed on wide aisles for easy entry and are fully upholstered to assure your comfort and relaxation while you enjoy the entertainment. These seats are arranged to provide perfect sight lines for each spectator and overhanging balconies also guarantee unobstructed, intimate viewing even from the top row.

The showplace of Virginia, the Richmond Coliseum — Largest indoor seating capacity in the Commonwealth — Centrally located in the heart of Downtown Richmond—On the doorstep of hotels, motels and good restaurants. Completely air-conditioned — a brand new, modern, fully equipped facility now booking for 1971 — Your event deserves the best — For Best Results!

## *The Mosque*

- Richmond's Totally Remodeled Auditorium
- Seating—3,767 permanent
- 51 Sets of Lines
- 15 Dressing Rooms
- Complete Stage Lighting & Sound
- Fully Air-Conditioned
- Proscenium 69 ft. x 26 ft.
- Exhibit Hall—18,000 sq. ft.

### • For Bookings Contact:

Leslie D. Banks, Manager  
Laurel and Main Streets  
Richmond, Virginia 23220  
Telephone: (703) 649-5921



# RICHMOND COLISEUM

**Largest Indoor Seating Capacity in the State**



**750,000 Entertainment Starved People**

For Detailed Information Contact:

Larry S. Thomas, Coliseum Manager

1000 East Marshall Street, Richmond, Virginia 23219

(703) 649-5451

**OPENING TUESDAY, AUG. 24, 1971**

## YOU PROMOTE OR WE PROMOTE

- ARENA SEATING—12,226
- FIXED—9,226
- PORTABLE—3,000
- ICE RINK—200' x 85'
- EXHIBIT HALL—15,390 sq. ft.
- ARENA FLOOR—220' x 108'
- OVERALL EXHIBIT AREA—44,132 sq. ft.
- PORTABLE STAGE—56' x 32'

The more than 12,000 armchair-type seats are placed on wide aisles for easy entry and are fully upholstered to assure your comfort and relaxation while you enjoy the entertainment. These seats are arranged to provide perfect sight lines for each spectator and overhanging balconies also guarantee unobstructed, intimate viewing even from the top row.

The showplace of Virginia, the Richmond Coliseum — Largest indoor seating capacity in the Commonwealth — Centrally located in the heart of Downtown Richmond—On the doorstep of hotels, motels and good restaurants. Completely air-conditioned — a brand new, modern, fully equipped facility now booking for 1971 — Your event deserves the best — For Best Results!



## YOU PROMOTE OR WE PROMOTE

- ARENA SEATING—12,226
- FIXED—9,226
- PORTABLE—3,000
- ICE RINK—200' x 85'
- EXHIBIT HALL—15,390 sq. ft.
- ARENA FLOOR—220' x 108'
- OVERALL EXHIBIT AREA—44,132 sq. ft.
- PORTABLE STAGE—56' x 32'









## Existing Coliseum Deficiencies

Today, in 2016, the deficiencies in Richmond Coliseum are obvious to fans and performers alike. The most important of these, followed by a summary of their relevance include:

- Seating Bowl Layout / Configuration
- Seat Count vs Intimacy
- Patron Access (arrival and circulation within)
- Technical Support for Operations
- Show Rigging
- Food and Beverage Services
- Premium Seating (suites, clubs, lounges)
- Concourse Services (restrooms, team shops, etc.)
- LED, Audio / Visual
- Lower Level Team / Performer / Support Facilities

### Seating Bowl Layout

The single most important aspect to quality arena design is the configuration of the seating bowl. The best arenas have seats that radiate outward from the court without wasted floor space between fans and players. Consequently, modern basketball facilities have seating plans that reflect the shape of the event being watched - longer in one direction than the other but following the same proportions as the court itself.

Like other arena concepts of its day, The Richmond Coliseum was designed around the geometry of the roof, which facilitates an efficient long-span engineering solution, but not necessarily an efficient seating plan where proximity to the court and concourse circulation is paramount. The designs shown in this study all adhere to the concept of a rigorously planned and more intimate seating configuration first and foremost.

### Seat Count vs Intimacy

The arrangement of seating around the event level is one aspect of quality bowl design. The other is the total number of seats compared to the marketplace demand. It is important that the new Arena is filled with fans and the energy level is high. An arena that is too large lacks the intimacy necessary to be considered a good basketball, concert or show venue.

In arenas where there is not a major league sports tenant, it is sometimes difficult to find the right balance of fan intimacy since many minor league sports are able to only fill the lower bowl. It is still important to have larger seating capacities for tournament play and touring concerts so a means of making the Arena smaller on demand is an important program feature. In those cases, a bowl design that allows an efficient way to black out upper bowl seating using curtains is important.

### Patron Access

Guests must be able enter and circulate the building with ease. Consideration for escalators and elevators to move between levels is fundamental to modern arena design. Currently there are many stairs within the existing facility, but no escalators and circulation is constricted and confusing.

### Technical Support for Basketball/Hockey Operations

Basketball and hockey events today are supported by a wide range of technology, from instant strike sport lighting that allows for dramatic instant "on-off" lighting, to strategically located camera platforms to capture the many necessary angles for television broadcast. Along with camera locations is the need for broadcast truck parking, and convenient cabling paths through overhead trays along corridors.

While it is possible to bring these features into the existing facility on a temporary basis for each game, ideally the new Arena should be set up to make TV broadcasts more convenient to crews and management which will make it more attractive for conference tournaments.

### Show Rigging

Touring shows that draw the most fans and fill the largest venues bring with them the most elaborate production sets, often arriving in dozens of semis with complex equipment and the need to set up and break down quickly. These sets include lighting bridges, LED displays, and hoists that sometime require extensive overhead rigging directly from the roof trusses. The issue of concern to touring shows is both live load capacity and ease of access to overhead steel structure.

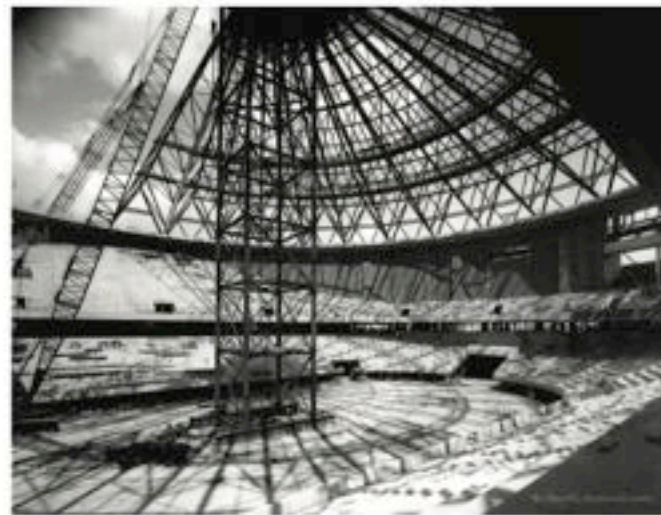
The current Coliseum roof structure never anticipated the kinds of shows that currently play in arenas. The arching roof structural system is limited in both its capacity to carry any and all rigging loads a show might demand, and its configuration is more challenging to riggers to access.

### Food and Beverage Services

A renovated Arena must feature a wide variety of food and beverage opportunities, beginning with better basic concession stands located at intervals along the public concourses. These stands are supported by food storage areas (the commissary) located at the lower level near the loading dock. Additionally, the proposed suites and club programs described in the new Arena program demands upscale food and beverage offerings. These will require pantries and holdings areas on those levels for food brought in from a central kitchen area.



Construction of the Coliseum showing the roof ring beam and 32 column "buttresses"



Construction of the Coliseum showing the roof trusses forming a dome

### Premium Seating (suites, clubs, lounges)

To gain the support of corporate sponsors, or 'marketing partnerships' – a critical and fundamental component to a successful business model for venues today – it is necessary to develop a range of premium seating options. These include products familiar to corporate sponsors who are accustomed to larger professional team venues and includes luxury suites, lounges, club seating, and VIP areas reserved for them.

### Concourse Services (restrooms, team shops, etc.)

A well-designed concourse is second only to the seating bowl when it comes to supporting the needs of fans. Concourses are the backbone of arenas – the means for circulating throughout the building. They serve as a continuous lobby. All fan services, including restrooms, concession stands, and merchandising facilities are connected via the concourse. It is also another opportunity for sponsor interaction.

The existing concourses at the Coliseum have severely impaired circulation and limited room for services, food and beverage and novelty sales. The concourses are significantly constrained by bulky brick buttresses that incorporate both the seating deck structure, but also the overhead roof columns.

### LED, Audio / Visual

For the best possible fan experience, there is a need for larger format LED displays in association with a center-hung scoreboard within the Arena bowl, LED ribbon boards around the perimeter of the seating bowl, TV monitors along the concourses to keep patrons connected to the game while buying food and merchandise, and high quality audio support for game operations.

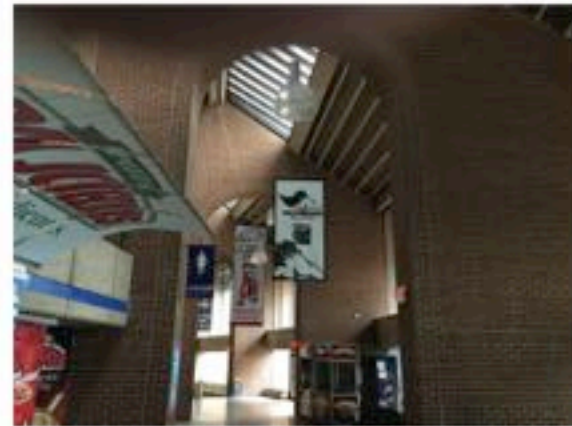
### Lower Level Team Facilities

Currently, the Richmond Coliseum has built out space at the lower level. This is normally the level where food service storage areas exist. Team locker rooms for both the home and away teams, referee lockers, new court level VIP club areas and press facilities would also occur here.

Having a large open floor area (marshaling area) near the loading dock for changeover of temporary seating, concert changeovers and prop storage, a portable basketball floor, dasher boards, goals scorer tables, etc. is fundamental to overall arena operations.



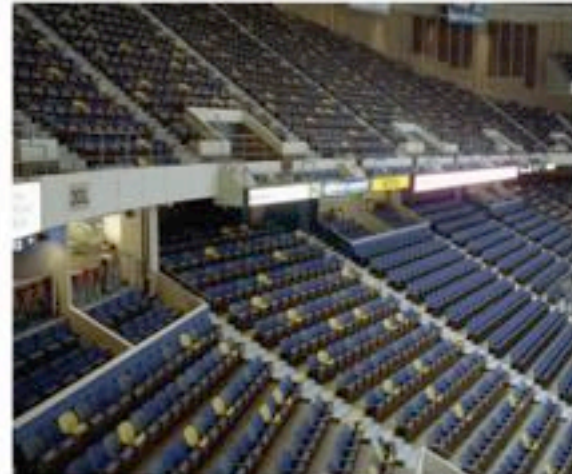
Expensive and under activated public spaces around the Coliseum



Brick buttresses clog concourse functions and obfuscate circulation



Depressed Leigh Street creates a new and better loading dock condition



Poorly balanced seating distribution - upper vs lower bowl



## Seating Consideration

### Multipurpose Programming

It is not practical to build an arena that is dependent on sales and programming from a single purpose. With careful planning and design however, emphasis can be placed on a dominant event use, such as basketball or hockey, and use those idealized sightlines as primary drivers for seating configuration design without diminishing its uses for other events. A renovated Coliseum would presumably remain a host venue for basketball tournament play and would become an ideal home court / home ice of one or more minor league affiliated teams.

This study explores several 'weighted' seating bowl concepts that illustrate ways to enhance sightlines and intimacy for various sports and configurations. Further analysis of the sightline tradeoffs would need to be vetted with various stakeholders before a final ideal bowl configuration could be determined.

### Spectator Seating

The new Arena must provide a variety of seating options for spectators including courtside seats, mid-level suites, loge level boxes and club seating. The various types and price ranges of seating experiences should be accessible from the all levels of the building.

Accommodations for wheelchair and ambulatory-disabled patrons and their companions should be provided in accordance with current standards. Final seating options and capacities should be determined during a more detailed comparative design phase based on demand research and more refined expectations of goals.

All rows should include an even number of seats between aisles where possible. Each seat should be fully upholstered with cup holders and self rising for exiting ease.

### Seating Types

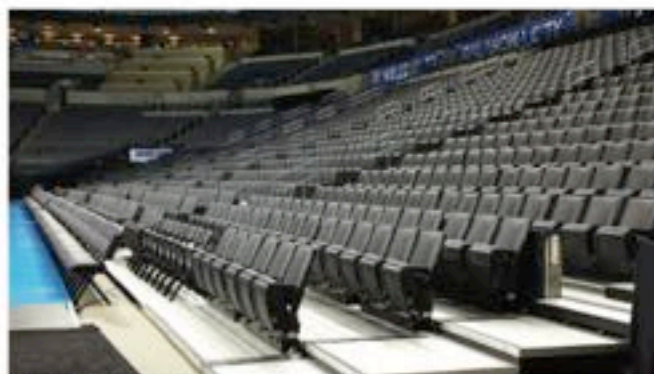
The lower bowl should be designed to maximize quality seating for either basketball or hockey configurations and include a variety of spectator options. Ideally the lower seating bowl should accommodate at least sixty percent of all seats (in the case of a 16,000 seat venue, the lower bowl including the premium concourse level would hold at least 9,600 seats). General ticket seating, courtside seats, midlevel suites and club seats should be incorporated into the seating plan and total seat count.

- **General Seating** All general seating in the lower and upper bowl should have a minimum width of 21" and a tread depth of no less than 33". Riser heights should be parabolic to optimize sightlines and range between 4" in the lower level to 21" maximum in the upper deck seating areas. Disabled seating must also be accommodated in a variety of seating areas as required by applicable codes.
- **Club Seating** Special preferred sections should also feature access to a lower bowl exclusive club and lounge, where a broader range of preferred food and beverage is available. Club seating should be a minimum of 24" wide depending on location and have a tread depth of at least 36".
- **Midlevel Suites** Located midway between the lower and upper level seating, the midlevel suites should offer a full view of the Arena interior and should generally feature 12 seats plus high-top bar areas and adjacent private lounge. Consideration should be given to additional party suites at this level that can be subdivided to serve larger or smaller groups.

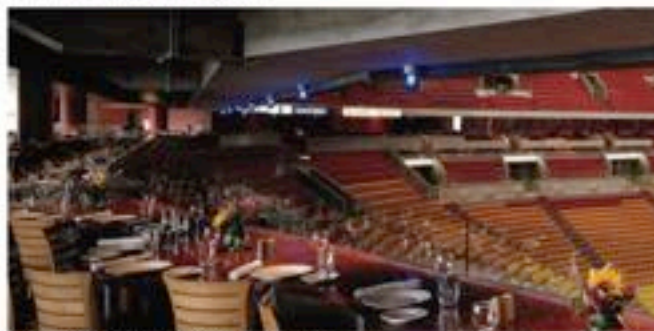
Club Seat holders should have access to one or more private clubs/ lounges within the Arena designed for the use of premium seat holders (See 'Premium Spaces').

Retractable and removable seating elements on the Event Level should be located in each end zone to allow conversion between events and optimize seating capacities. The seating in the end nearest the loading dock must be able to retract in order to optimize end stage concert configuration with maximum seating capacity visible to the front of the stage. The end opposite the loading dock should be able to retract in order to maximize the flat floor space on the event floor. Consideration should be given for retractable seating along the side depending upon the mix of events and the intended use. Retractable platforms should have integrated fold down chairs.

Seating types in the lower seating terraces are expected to consist of minimum 21" wide self-rising upholstered chairs where possible, but limited utilization of 20" wide chairs should be permitted in corners and end sections as necessary to optimize seating capacity.



Typical arena seating on stacking risers



Club Seating - American Airlines Arena, Miami Heat



A non-traditional suite - Barclays Center, Brooklyn Nets



### Scoreboard and Video Display Systems

The center-hung scoreboard should be an all-electronic LED system consisting of a minimum four, 16:9 aspect ratio video boards with live action, instant replay, game scoring information, fixed and electronic advertising, naming rights sponsor identification (if required) and messaging. The hoisting system should be designed to maximize the stored height of the scoreboard.

LED 'ribbon' boards should be provided on the fascia of the upper level seating bowl. Sightlines for the Arena should be designed for fascia displays to be surface mounted on the leading edge risers and for the displays to be a minimum of 32 inches high.

Auxiliary boards should be provided within the seating bowl to provide scoring and game in progress information. Game clocks and other requested scoring information should be placed in team locker rooms, official locker rooms, coaches' rooms, writing press work room, press lounge and auxiliary locker rooms. Shot clocks should be provided at each basketball goal and goal lights behind each goal.

Further programming discussions are needed to determine the appropriate sound system design and acoustic treatment for the bowl interior, but it is assumed to be a fully distributed audio system at a variety of levels throughout.

### Control Rooms

Control booths (all with secured grilles or windows) are needed for the sound operator, lighting operator, and scoreboard and videoboard operators. It may be possible to combine all positions in a single booth, which could be located in an area that has little premium value as a suite or other space. Alternatively, the main video production/control room may be located on the event level with a satellite booth at the press level. Design of the control room must be closely coordinated with the designated operational staff members.

### Converged Network System

A Converged Network System that should support IPTV, voice, POS, WLAN, Digital/LED boards and signage, security, computing and other required Arena services should be incorporated into the overall design.

SMATV / IPTV – The distributed TV system is to allow for the transmission of digital HD TV programming along with satellite antenna feed. This should allow the use of digital or satellite receivers and TV sets at any location with a distributed TV system outlet. This cabling system can also be used for high-speed internet access and other broadband services.

The system should include, as required, the ability to receive and distribute municipal cable, satellite signals, off-air antennas and programming generated in-house by the Arena video production system and mobile TV production trucks.

The control and processing, or head-end equipment for the system should be located in the video production system room.

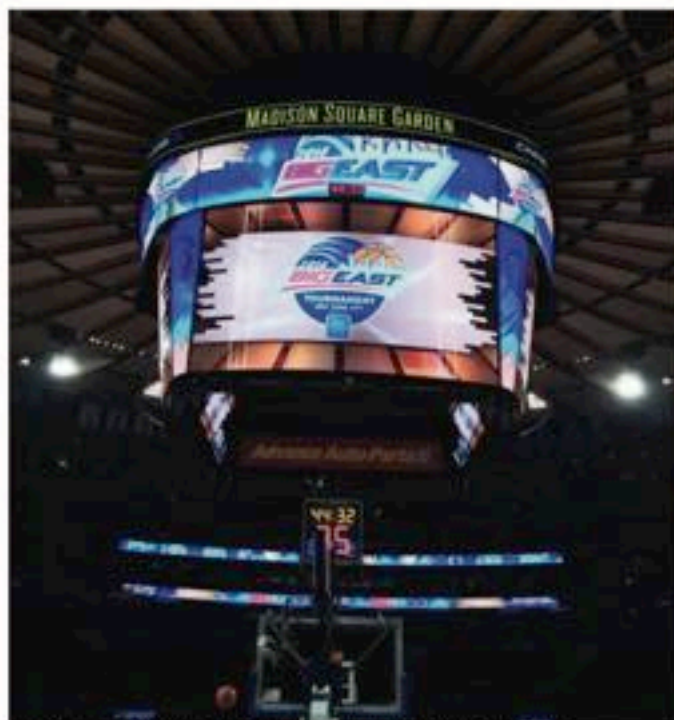
### Communications Systems and Infrastructure

Communications backbone and horizontal distribution including cable and raceways systems should be developed to support voice and data communications for the Owner, operations, teams, concessionaire(s), retailer, ticket vendor, Arena control systems, security, and other tenants and/or systems requiring communications interfaces. This infrastructure should consist of copper and fiber media capable of supporting technologies of the day and provide future proofing for evolving technologies. Dedicated communications rooms and raceways should be planned to accommodate technology infrastructure as well as electronic equipment.

### Follow Spots

Follow Spots should be located with appropriate power and intercom cabling at a minimum, at the following locations. Each location should be placed and designed so that the spotlight at each location can view the entire event floor with the seats retracted. Spotlights located on the catwalk or in front of any rails, may require removable section of railing for full-range of view for the spotlight.

- End opposite the end stage location (number of positions TBD)
- Behind the end stage location (number of positions TBD)
- At each corner of the Arena
- At center court
- At selected ADA platforms within the bowl



One of the first all-LED video center hung scoreboards - Madison Square Garden, NY



### Acoustic Treatment

The New Arena needs to be designed to support a wide range of programs, including concerts, sports and other multi-purpose events. The best multi-purpose approach to acoustical design is to provide the Arena with a short reverberation time, specialized low frequency absorption features. Care should be taken to address architectural elements that can generate echoes or bounce back, especially ones that can be heard at the stage by performers. These surfaces potentially include:

- Faces of seating levels, loges
- Vertical walls, such as those at the back of the lower bowl, between suites above the upper seating levels, behind disabled seating platforms.
- Full height glass railing or walls are discouraged anywhere in the seating bowl.
- The catwalk design should maintain a minimum of 3 ft. wide clear and 6'8" clear height (including the fall arrest cabling), when photostrobes, light ballasts and attachments, electrical and junction boxes, etc. are considered. A wider clear dimension should be required at the spotlight locations. Solid, checker plate type with a minimum 4" continuous kick plate surface is required.

### Broadcast Requirements

The New Arena should be configured to support TV cameras, TV truck and crew requirements, for cabling, camera positions, truck parking. Transmission should be as follows:

- **Local** TV stations should be provided parking and technical locations that should allow for access to, and live broadcast from the Arena. The on-grade parking location for local TV trucks should be determined based on line of sight views to microwave receive sites in town and satellite uplink to the southern sky. Cabling pathways from the truck parking should be provided to the event floor, locker and interview rooms, at a minimum. Based on discussions with broadcasters, these locations may be modified and dedicated cabling may or may not be installed, depending upon contribution from the broadcasters.
- **National** Space should be provided for a minimum of six, full sized TV production trucks, plus two crew trailers at the loading dock. Camera positions should be in accordance with the various league requirements. The Arena should be pre-wired for play-by-play broadcasting for up to three crews including HDTV broadcasts.
- **Radio** Provisions for radio broadcasters and transmission out from the Arena should be provided court-side for basketball.

Space for control equipment and patch panels is also necessary, and may be located either adjacent to the control booth(s) or on the Event Level. Patch panels should be needed on the Event Level, generally located near the Loading Dock.

### Security System

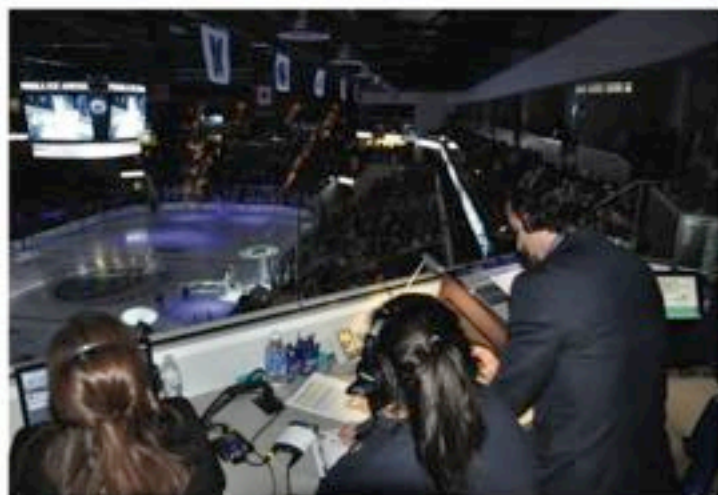
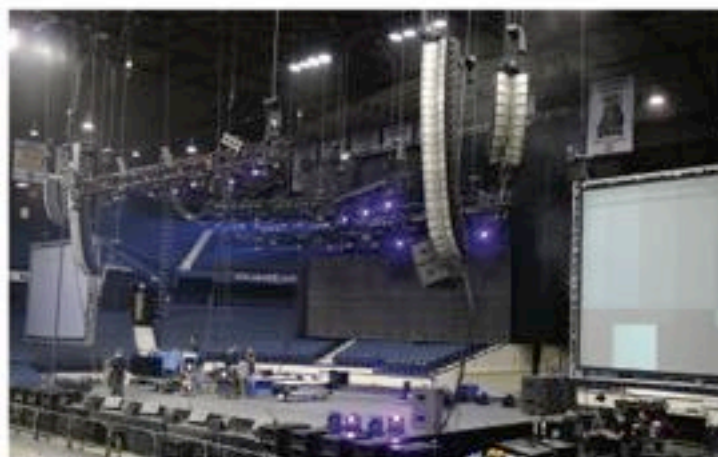
The security system should include provisions for a complete and fully functional integrated system utilizing access control, intrusion detection, and video surveillance. In general, the system should be used to monitor the site, Arena perimeter and key internal areas using intrusion monitoring points (motion detection and door status) and video surveillance (cameras). Arena and site access should be electronically controlled using a proximity/smart card reader system. The security system should function in two primary modes (or more). Event and Non-Event with sub-schedules (days, evenings, weekends, holidays, etc.) that can be further defined by the Owner.

The security system should incorporate hardware and software specifically designed to support multi-systems, multi-users, multi-tasking, point monitoring and system administration and operation. The systems should be interfaced to the Owner's LAN using Ethernet and Internet Protocol (IP) based technology. The security system should be monitored and controlled from a 24-hour command center located on-site. Device components should include card readers, door position switches, duress alarms, remote door releases, motion detectors, fixed video cameras and pan-tilt-zoom cameras.

### Video Surveillance

There are three major areas of coverage for the video surveillance system:

- Seating Bowl
- Interior crowd control and sensitive spaces (including walk-through metal detectors and concourse cameras)
- Exterior plazas, entrances and threat avenues



Control Room with direct visual connection to the Event Floor



## Roof Design Considerations

### Evolution of Structural Requirements

When the Richmond Coliseum opened, touring entertainment consisted of family shows - ice shows, the circus, and occasionally concerts, which were just beginning to be the dominant entertainment model for road shows. Rigging loads were generally limited since arenas in those years varied widely in their ability to hoist additional live loads and there was not the production value escalation that we see today.

Concerts had to design their shows to the lowest common denominator in venue capabilities. In 1971, arenas like the Coliseum were designed around the prevailing program determinants of the day, and that generally meant designing effective long span structural systems that had little excess capability for added live loads.

As the proliferation of new arenas grew during the 80s and 90s as a result of NBA and NHL success and expansion, live touring shows also began to develop greater demand for both seating capacities as well as rigging flexibility. Success begat more elaborate stage sets until the industry norm today is for roof systems that can carry spectacular lighting, scenery, LED screens, and special effect systems, and can be easily accessed by skilled riggers.

Rigging needs for arenas today present a variety of loading criteria unique to the entertainment industry, which can place unusual demands on a building structural system. Rigging loads result from both permanent and temporary systems and, increasingly, both types of systems acting simultaneously. Rigging systems and equipment are generally used to lift and position lighting, audio, video, scenery, special effects and related items.

In an arena, systems are complicated by the unusually large spans the structural system is required to serve which creates additional demands on both the type of truss designed, its location, and its ultimate load carrying capacity. Rigging live loads in arenas can equal or exceed the gravity loads.

### Arenas in Show Mode

As a building type, arenas have unusually long span structural requirements over large footprints of up to 400 feet x 600 feet with a 100-ft roof height. They are usually high demand facilities with aggressive use schedules and a wide variety of events occurring over the course of a calendar year. The busiest facilities (Staples Center in Los Angeles, for example) host over 250 events a year. Rigging loads are usually suspended from steel wire rope sling and bridle assemblies. The loads are lifted by electric chain hoists adapted to the needs of the entertainment industry. Temporary rigging loads in the range of 75 kips acting on an 80- x 100-foot section of the roof structure are common, with the largest events placing loads on the roof system in the range of 200 kips acting on a similar footprint.

### Rigging Systems

Arena rigging primarily consists of lifting and support of overhead loads by using electric chain hoists that have been adapted to entertainment rigging. Arena style hoists are inverted and "climb the chain". Steel wire rope slings are positioned by riggers who climb on and around the arena roof structure to find the ideal pick points. Hoists are connected to the slings and subsequently to the show equipment.

Load criteria for arena rigging vary widely between events. This has resulted in a system that can seem crude by comparison to the general industry, but it is a system designed to be highly adaptable to differing building geometries and show conditions. The most common hoists are 1-ton and 2-ton units; a typical event could have 40 to 80 units total.

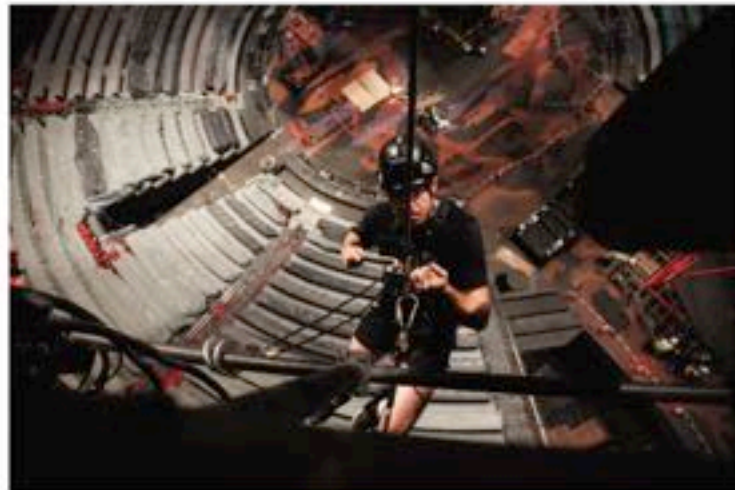
### Design Criteria

Arena rigging typically imposes relatively large point loads over a wide variety of locations throughout the roof system. Due to the very unpredictable nature of the loads that will be applied by any event, a conservative "multiple point load" approach is frequently applied. In this case, the structure might be designed to support a collateral rigging load of 4 kips at +/- 20 feet on center along both the lateral and longitudinal axes of the building, with a lower capacity for rigging above seating areas. Some venues restrict rigging loads to one area of the building, which can result in first cost reductions but can limit the flexibility of the facility in the future.

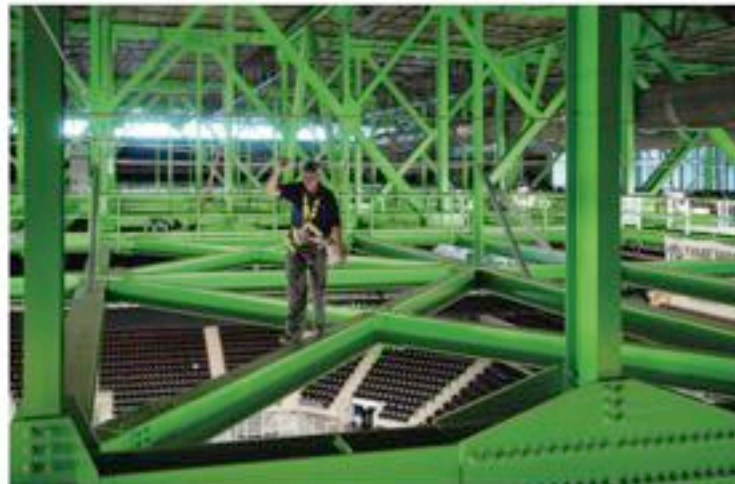
The nature of the structural system is also important as riggers are required to either walk through the trusses using safety harnesses to protect against falls, or be hoisted into place so that bridles can be placed around structural members that will allow temporary hoists to be put in place controlling strategically placed line sets.

In the case of the Richmond Coliseum, the existing roof system is limited in both its lifting capacity and in its individual structural member component shapes making it more difficult for riggers to access quickly and easily.

In the design of a new Arena, special attention is given to making the roof a total system designed for maximum ease in staging concerts and touring shows.



Rigger required to be suspended while securing pick points



Rigger wearing a safety harness and walking the top of a wide flange beam as he locates and secures pick points

# 3 Market Analysis / Program for a New Richmond Arena



## NEW DOWNTOWN RICHMOND ARENA MARKET & FINANCIAL FEASIBILITY STUDY

FEBRUARY 7, 2018





# CSL International

## Tasks:

Local Market Characteristics

Comparable Arena Benchmarking

Financial Projections



## Comparable Arena Benchmarking

**BOK Center** (*Tulsa, OK*)

**Denny Sanford Premier Center** (*Sioux Falls, SD*)

**Dunkin Donuts Center** (*Providence, RI*)

**Intrust Bank Arena** (*Wichita, KS*)

**Veterans Memorial Arena** (*Jacksonville, FL*)

**Pinnacle Bank Arena** (*Lincoln, NE*)

**Save Mart Center** (*Fresno, CA*)

**Times Union Center** (*Albany, NY*)

**Van Andel Arena** (*Grand Rapids, MI*)



### NEW DOWNTOWN RICHMOND ARENA MARKET & FINANCIAL FEASIBILITY STUDY

FEBRUARY 7, 2018





# Top 50 Metro Areas in U.S and Their Arenas

MSA	Arena(s)	Seat Count
1 New York / New Jersey	Madison Square Garden	20,789
	Barclays Center	19,000
	Prudential Center	19,500
2 Los Angeles / Long Beach	Staples Center	20,000
	Honda Center	18,900
	The Forum	18,000
3 Chicago	United Center	23,500
	Allstate Arena	18,500
4 Dallas-Fort Worth-Arlington	American Airlines Center	20,000
	Fort Worth Convention Center	13,500
5 Houston, TX	Toyota Center	19,000
6 Washington, DC	Capital One Arena	21,000
7 Miami, FL	BB&T Center	22,457
	American Airlines Arena	20,000

	<b>MSA</b>	<b>Arena(s)</b>	<b>Seat Count</b>
8	Philadelphia, PA	Wells Fargo Center	21,600
9	Atlanta, GA	State Farm Arena	21,000
10	Boston, MA	TD Garden	19,580
11	Phoenix, AZ	Talking Stick Resort Arena Gila River Arena	19,500 19,000
12	San Francisco-Oakland, CA	Oakland Arena Chase Center	19,596 18,064
13	Riverside-San Bernardino-Ontario, CA	Toyota Arena	11,089
14	Detroit-Warren-Dearborn, MI	Little Caesars Arena	21,000
15	Seattle-Tacoma-Bellevue, WA	Tacoma Dome	23,000
16	Minneapolis-St. Paul, MN	Target Center Xcel Energy Center	20,500 19,355
17	San Diego, CA	Pechanga Arena	16,100



	<b>MSA</b>	<b>Arena(s)</b>	<b>Seat Count</b>
18	Tampa-St. Petersburg-Clearwater, FL	Amalie Arena	21,817
19	Denver-Aurora-Lakewood, CO	Pepsi Center	21,000
20	St. Louis, MO	Enterprise Center	22,000
21	Baltimore, MD	Royal Farms Arena	14,000
22	Orlando, FL	Amway Center	20,000
23	Charlotte, NC	Spectrum Center	20,200
24	San Antonio-New Braunfels, TX	AT&T Center	19,000
25	Portland, OR	Moda Center	21,000
26	Sacramento–Roseville–Folsom, CA	Golden 1 Center	18,000
27	Pittsburgh, PA	PPG Paints Arena	19,578
28	Las Vegas, NV	T-Mobile Arena	20,000
		MGM Grand Garden Arena	17,157
		Mandalay Bay Events Center	12,000

	<b>MSA</b>	<b>Arena(s)</b>	<b>Seat Count</b>
<b>29</b>	Cincinnati, OH	US Bank Arena	17,556
<b>30</b>	Austin, TX	Moody Center	10,000 - 15,000
<b>31</b>	Kansas City, MO	Sprint Center	19,252
<b>32</b>	Columbus, OH	Nationwide Arena	20,000
<b>33</b>	Cleveland-Elyria, OH	Rocket Mortgage Fieldhouse	21,200
<b>34</b>	Indianapolis-Carmel-Anderson, IN	Bankers Life Fieldhouse	20,000
<b>35</b>	San Jose, CA	SAP Center at San Jose Cow Palace	20,000 16,500
<b>36</b>	Nashville, TN	Bridgestone Arena	20,000
<b>37</b>	Virginia Beach-Norfolk,, VA	Hampton Coliseum Norfolk Scope	13,800 13,800
<b>38</b>	Providence, RI	Dunkin' Donuts Center	14,000



	<b>MSA</b>	<b>Arena(s)</b>	<b>Seat Count</b>
39	Milwaukee, WI	Fiserv Forum	17,500
40	Jacksonville, FL	VyStar Veterans Memorial Arena	16,301
41	Oklahoma City, OK	Chesapeake Energy Arena	19,711
42	Raleigh-Cary, NC	PNC Arena	21,500
43	Memphis, TN	FedEx Forum	19,500
44	<b>Richmond, VA</b>	<b>Richmond Coliseum</b>	<b>13,500</b>
45	Louisville/Jefferson County, KY	KFC Yum! Center	22,090
46	New Orleans-Metairie, LA	Smoothie King Center	18,500
47	Salt Lake City, UT	Vivint Smart Home Arena	21,000
48	Hartford, CT	XL Center	16,606
49	Birmingham-Hoover, AL	Legacy Arena	18,977
50	Buffalo-Cheektowaga, NY	KeyBank Center	19,468

# CSL International

## The average seating capacity for comparable venues

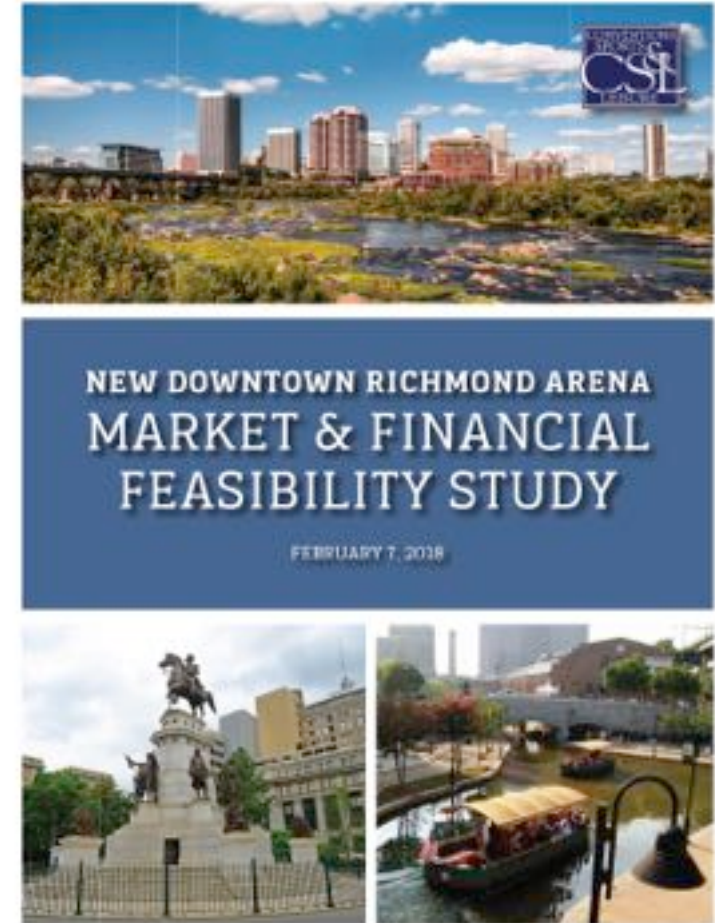
- 13,010 for hockey events: range -10,678 to 17,096 **(13,503)**
- 14,346 for basketball events: range - 11,500 to 17,839 **(16,254)**
- 15,311 for center stage events: range - 13,000 to 19,199 **(17,150)**

## The average comparable venue total 370,841 SF

- low of 187,315
- high of 565,000
- current Richmond Coliseum totals 180,000 SF.
- New Richmond program: 415,000 SF

## Comparable arenas hosted an average of 134 events

- average total attendance of 582,511 **(509,000)**
- Average total events of 134 **(121)**
- Richmond Coliseum hosted 82 events in 2016
- and 398,225 attendees in a recent year of operations.





# Financial Projections

FINANCIAL PRO FORMA					
	2021	2022	2023	2024	2025
<b>REVENUES:</b>					
<i>Event Income</i>					
Net Rent	\$1,965,000	\$2,024,000	\$2,085,000	\$2,147,000	\$2,212,000
Event Reimbursements	705,000	726,000	748,000	770,000	793,000
Less: Event Expenses	(1,479,000)	(1,523,000)	(1,569,000)	(1,616,000)	(1,664,000)
<b>Subtotal - Net Direct Event Income</b>	<b>\$1,191,000</b>	<b>\$1,227,000</b>	<b>\$1,264,000</b>	<b>\$1,301,000</b>	<b>\$1,341,000</b>
<i>Ancillary Revenue:</i>					
Food & Beverage (net)	\$1,199,000	\$1,235,000	\$1,272,000	\$1,310,000	\$1,350,000
Novelty (net)	97,000	100,000	103,000	106,000	109,000
Parking (net)	420,000	433,000	446,000	459,000	473,000
Ticket Incentives	1,531,000	1,577,000	1,624,000	1,673,000	1,723,000
Facility Fees	891,000	918,000	945,000	974,000	1,003,000
Promoter Share	(531,000)	(547,000)	(563,000)	(580,000)	(597,000)
<b>Subtotal - Net Ancillary Revenue</b>	<b>\$3,607,000</b>	<b>\$3,716,000</b>	<b>\$3,827,000</b>	<b>\$3,942,000</b>	<b>\$4,061,000</b>
<i>Other Revenue</i>					
Arena Sponsorships (net)	\$2,210,000	\$2,210,000	\$2,210,000	\$2,210,000	\$2,210,000
Suite Premiums (net)	1,595,000	1,643,000	1,692,000	1,743,000	1,795,000
Loge Box Premiums (net)	183,000	189,000	195,000	200,000	206,000
Club Seat Premiums (net)	363,000	374,000	386,000	397,000	409,000
<b>Subtotal - Net Other Revenue</b>	<b>\$4,351,000</b>	<b>\$4,416,000</b>	<b>\$4,483,000</b>	<b>\$4,550,000</b>	<b>\$4,620,000</b>
<b>TOTAL OPERATING REVENUES</b>	<b>\$9,149,000</b>	<b>\$9,359,000</b>	<b>\$9,574,000</b>	<b>\$9,793,000</b>	<b>\$10,022,000</b>
<b>EXPENSES:</b>					
Utilities	\$1,305,000	\$1,344,000	\$1,384,000	\$1,426,000	\$1,469,000
Insurance	212,000	219,000	225,000	232,000	239,000
Labor Costs	2,504,000	2,579,000	2,656,000	2,736,000	2,818,000
General & Administrative	800,000	824,000	849,000	874,000	900,000
Operations	760,000	783,000	806,000	830,000	855,000
<b>TOTAL OPERATING EXPENSES</b>	<b>\$5,581,000</b>	<b>\$5,749,000</b>	<b>\$5,920,000</b>	<b>\$6,098,000</b>	<b>\$6,281,000</b>
<b>INCOME (LOSS) FROM OPERATIONS</b>	<b>\$3,568,000</b>	<b>\$3,610,000</b>	<b>\$3,654,000</b>	<b>\$3,695,000</b>	<b>\$3,741,000</b>
Management Fee	\$350,000	\$361,000	\$371,000	\$382,000	\$394,000
<b>NET OPERATING INCOME (LOSS)</b>	<b>\$3,218,000</b>	<b>\$3,249,000</b>	<b>\$3,283,000</b>	<b>\$3,313,000</b>	<b>\$3,347,000</b>



## NEW DOWNTOWN RICHMOND ARENA MARKET & FINANCIAL FEASIBILITY STUDY

FEBRUARY 7, 2018



# Key Comparisons



Richmond Coliseum

Number of Events  
Number of Attendees  
Box Office Sales  
Suite Inventory & Revenue  
Total Net Revenue



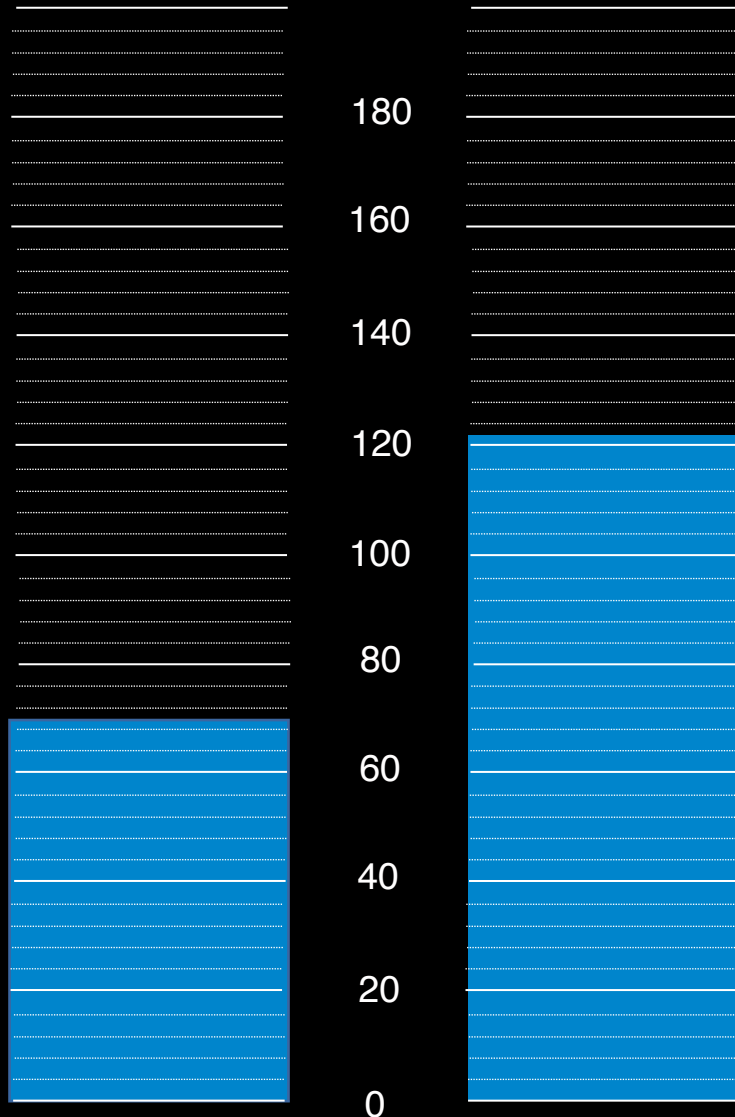
New Richmond Arena



annual  
Number of Events  
**73**



**Richmond Coliseum**  
*FY 2018*



annual  
Number of Events  
**121**  
*no sports tenants*

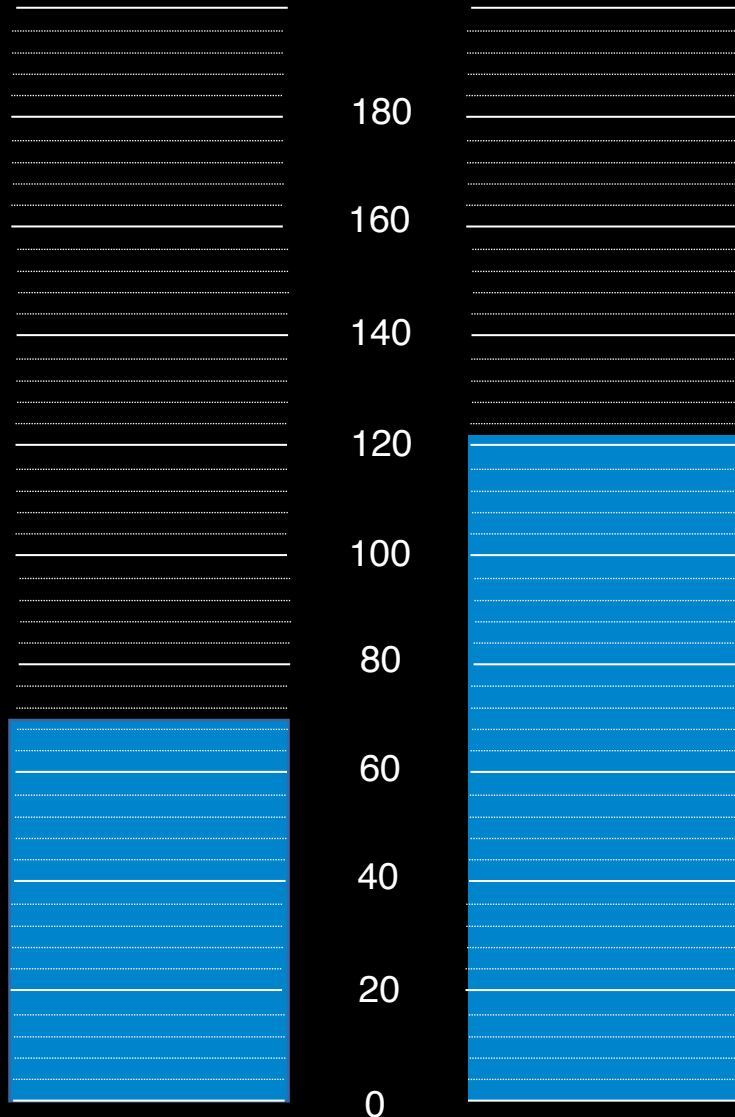


**New Richmond Arena**  
*Projected FY1*

annual  
Number of Events  
**73**



**Richmond Coliseum**  
*FY 2018*



annual  
Number of Events  
**181**



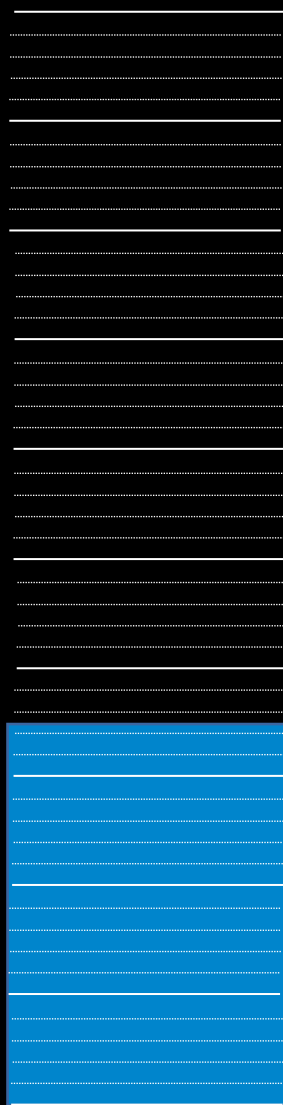
**New Richmond Arena**  
*Projected FY1*



annual  
Number of Events  
**73**



**Richmond Coliseum**  
*FY 2018*

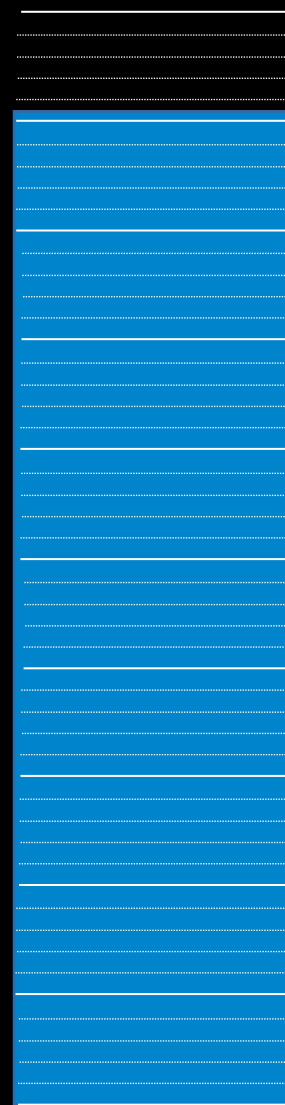


180  
160  
140  
120  
100  
80  
60  
40  
20  
0

annual  
Number of Events  
**181**  
*with G-League, and AHL*



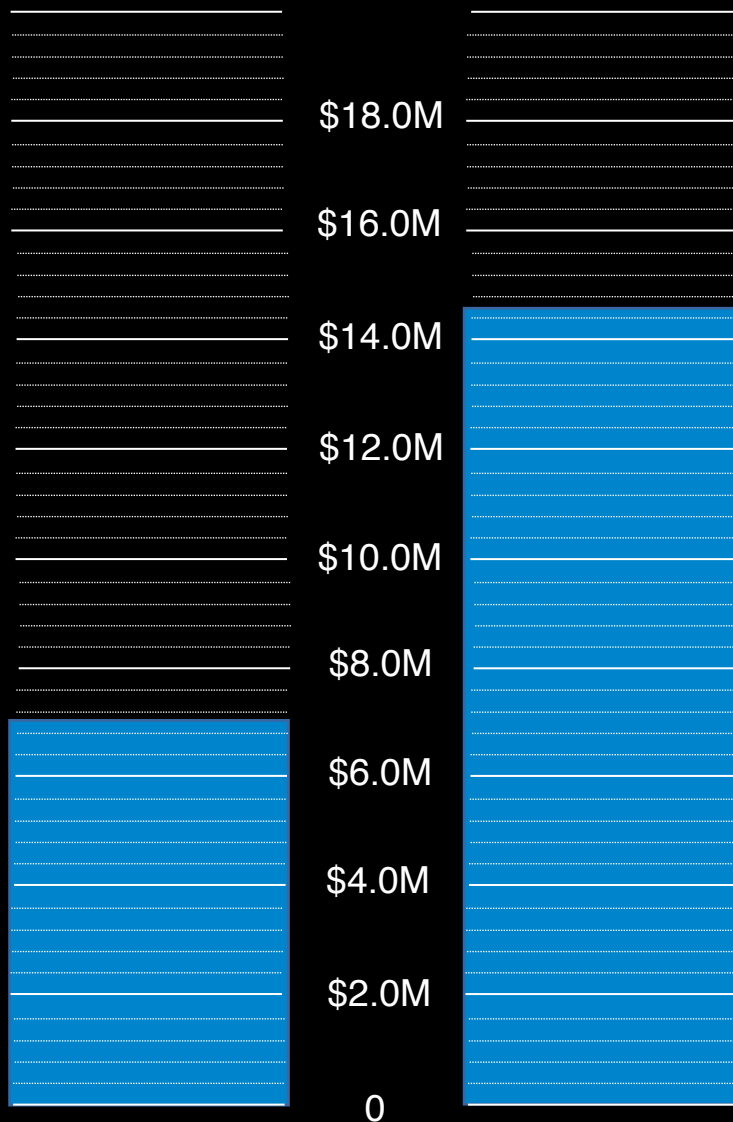
**New Richmond Arena**  
*Projected FY1*



annual  
Box Office Sales  
**\$7,189,820**



**Richmond Coliseum**  
*FY 2018*



annual  
Box Office Sales  
**\$14,495,250**  
*no sports tenants*



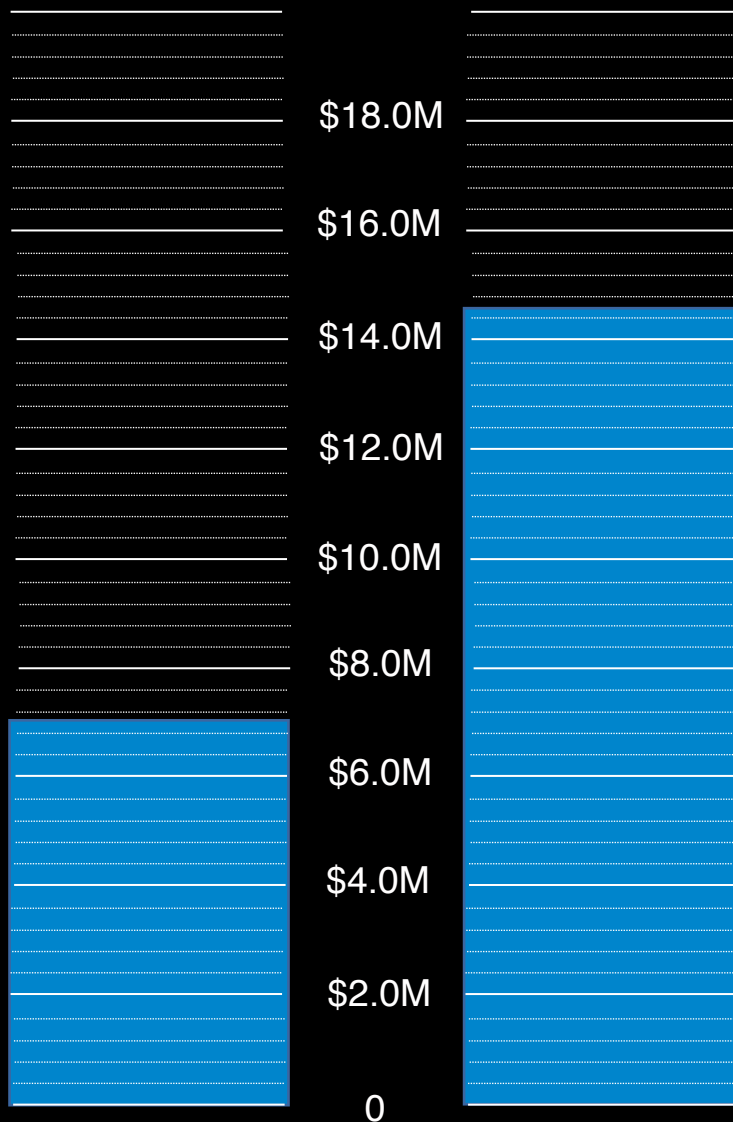
**New Richmond Arena**  
*Projected FY1*



annual  
Box Office Sales  
**\$7,189,820**



**Richmond Coliseum**  
*FY 2018*



annual  
Box Office Sales  
**\$17,735,250**

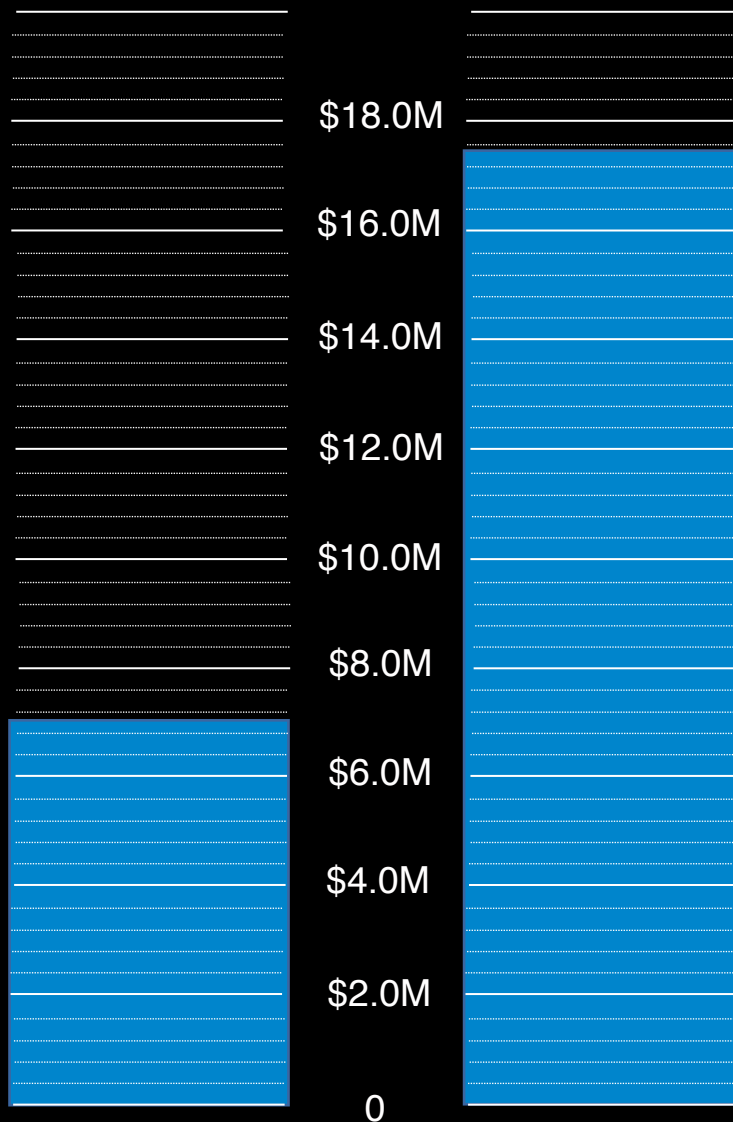


**New Richmond Arena**  
*Projected FY1*

annual  
Box Office Sales  
**\$7,189,820**



**Richmond Coliseum**  
*FY 2018*



annual  
Box Office Sales  
**\$17,735,250**  
*with sports tenants*



**New Richmond Arena**  
*Projected FY1*



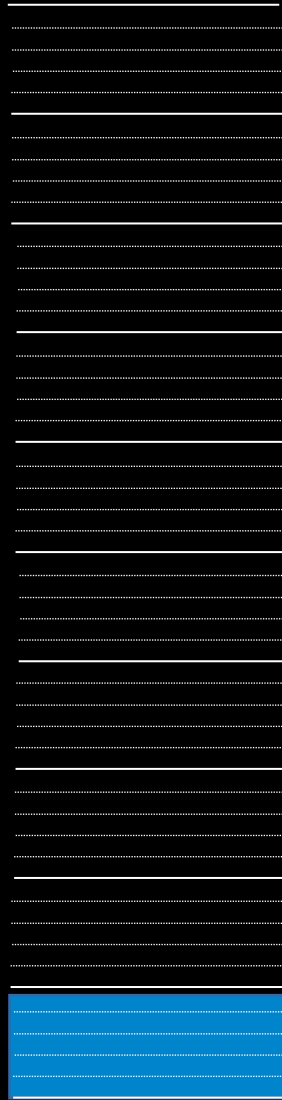
Suite Inventory

9



Richmond Coliseum

*FY 2018*



90

80

70

60

50

40

30

20

10

0

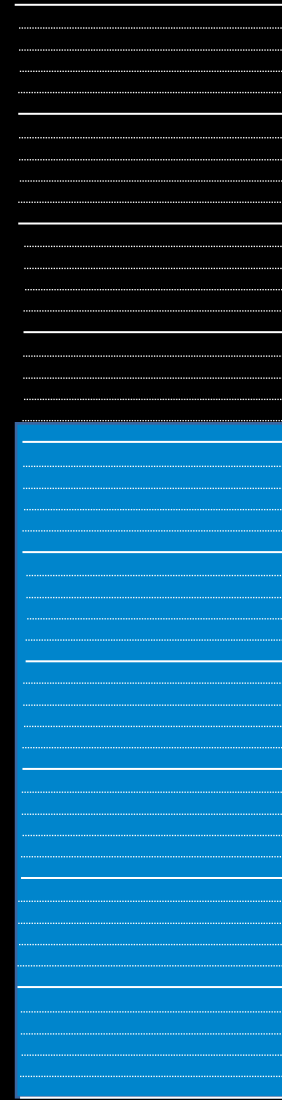
Suite Inventory

**28+34** club suites



New Richmond Arena

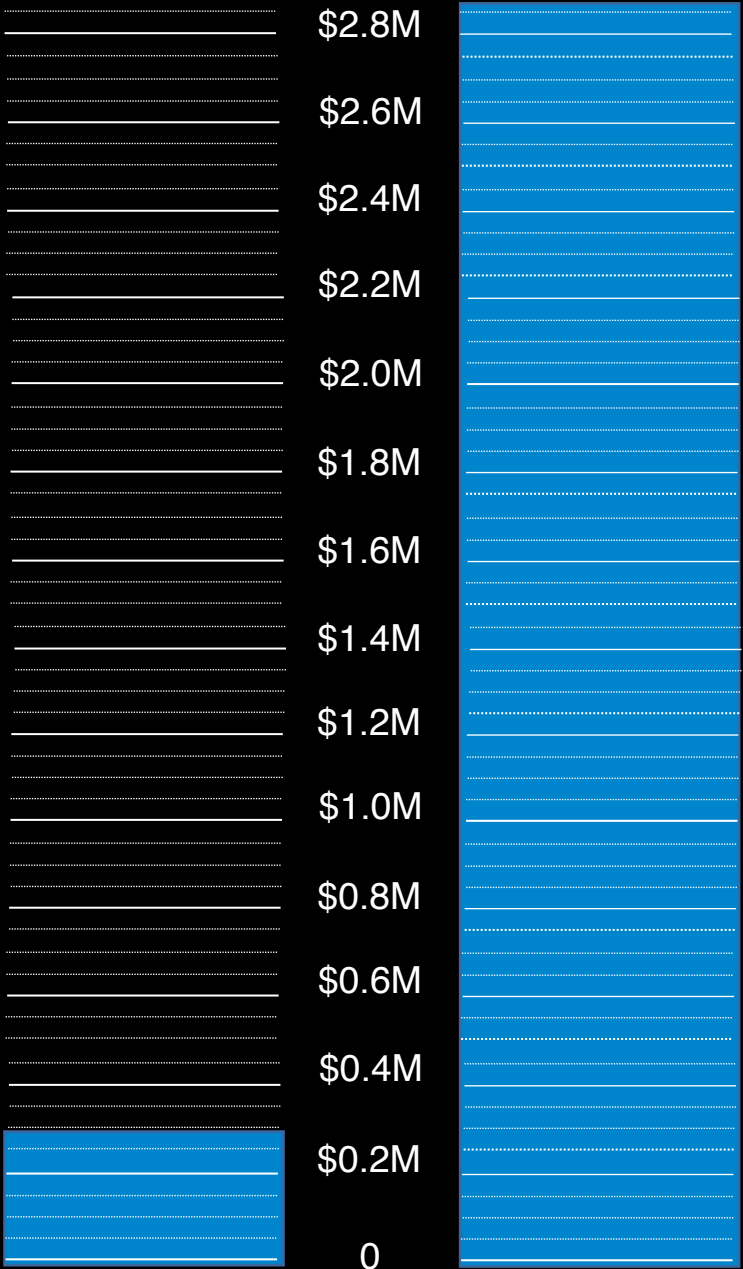
*Projected FY1*



annual  
Potential Suite Revenue  
**\$270,000**  
*potential never realized*



**Richmond Coliseum**  
*FY 2018*



annual  
Potential Suite Revenue  
**\$2,850,000**  
*with or without sports tenants*



**New Richmond Arena**  
*Projected FY1*



annual

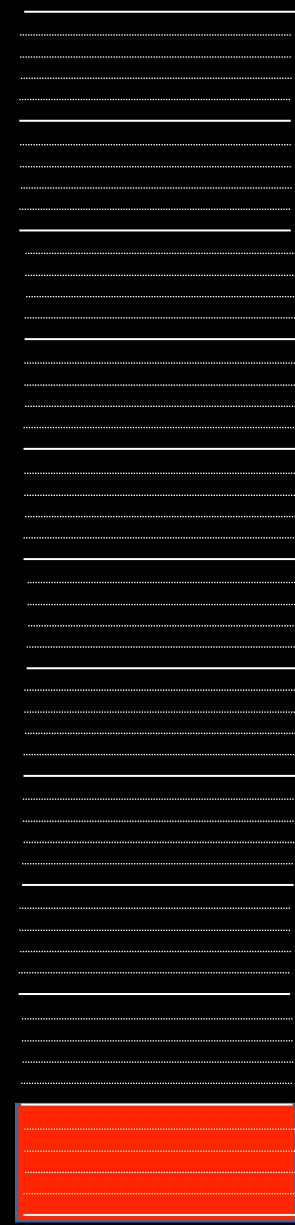
Total Net Income

- \$512,417



Richmond Coliseum

FY 2018



\$4.5M  
\$4.0M  
\$3.5M  
\$3.0M  
\$2.5M  
\$2.0M  
\$1.5M  
\$1M  
\$0.5M  
\$0.0  
-\$0.5M

annual

Total Net Income

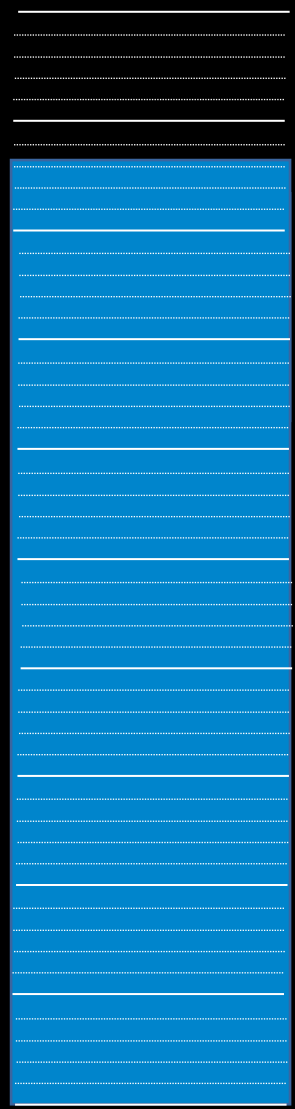
\$4,277,182

*no sports tenants*



New Richmond Arena

Projected FY1



annual

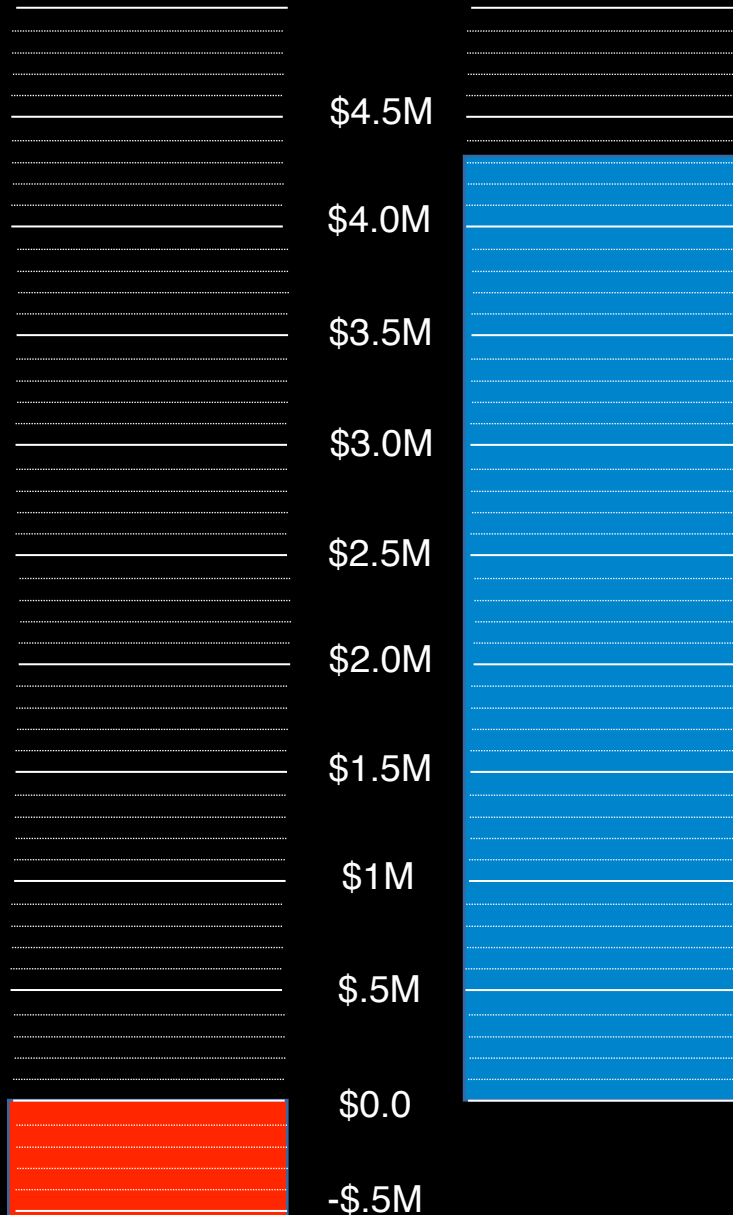
Total Net Income

- \$512,417



Richmond Coliseum

*FY 2018*



annual

Total Net Income

\$4,560,252



New Richmond Arena

*Projected FY1*



annual

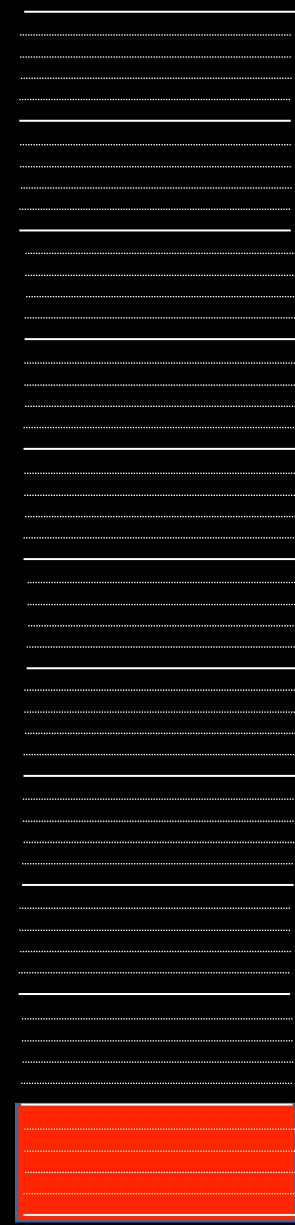
Total Net Income

- \$512,417



Richmond Coliseum

FY 2018



\$4.5M  
\$4.0M  
\$3.5M  
\$3.0M  
\$2.5M  
\$2.0M  
\$1.5M  
\$1M  
\$0.5M  
\$0.0  
-\$0.5M

annual

Total Net Income

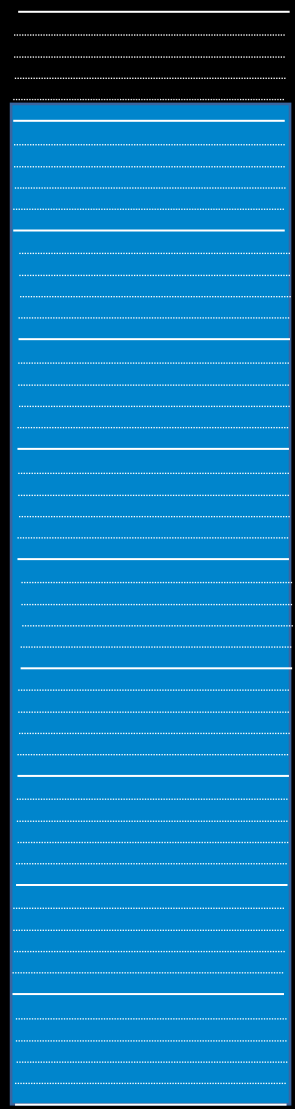
\$4,560,252

*with sports tenants*



New Richmond Arena

Projected FY1



# Annual Attendance

Multi-Tenant - Larger Markets  
2 million - 3.2 million

Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
Capital One Arena, DC  
Barclays Center, NY

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
Talking Stick Resort Arena, Phoenix  
Amway Center, Orlando  
KFC Yum! Center, Louisville

Sprint Center, Kansas City (18,900)  
Pinnacle Bank Arena (NCAA 15,500)  
BOK Center (ECHL 19,100)  
Van Andel Arena (AHL 11,000)  
New Richmond Arena (G League, ECHL, 17,500)  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
New Richmond Arena (no tenants, 17,500)  
Jacksonville Memorial (ECHL, AFL 14,000)  
Richmond Coliseum (no tenants, 13,500)

**Private Development**  
Construction & Operations



# Annual Attendance

Multi-Tenant - Larger Markets  
2 million - 3.2 million



Madison Square Garden, NY

**Staples Center, LA**

American Airlines Center, Dallas

Wells Fargo Center, Philadelphia

Capital One Arena, DC

Barclays Center, NY

Quicken Loans Arena, Cleveland

Fiserv Forum, Milwaukee

Talking Stick Resort Arena, Phoenix

Amway Center, Orlando

KFC Yum! Center, Louisville

Sprint Center, Kansas City (18,900)

Pinnacle Bank Arena (NCAA 15,500)

BOK Center (ECHL 19,100)

Van Andel Arena (AHL 11,000)

New Richmond Arena (G League, AHL, 17,500)

Dunkin Donuts Center (AHL 14,000)

Save Mart Center (NCAA 15,500)

Denny Sanford Premier Center (USHL 12,000)

New Richmond Arena (no tenants, 17,500)

Jacksonville Memorial (ECHL, AFL 14,000)

Richmond Coliseum (no tenants, 13,500)

# Annual Attendance

Multi-Tenant - Larger Markets  
2 million - 3.2 million



Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
**Capital One Arena, DC**  
Barclays Center, NY

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
Talking Stick Resort Arena, Phoenix  
Amway Center, Orlando  
KFC Yum! Center, Louisville

Sprint Center, Kansas City (18,900)  
Pinnacle Bank Arena (NCAA 15,500)  
BOK Center (ECHL 19,100)  
Van Andel Arena (AHL 11,000)  
New Richmond Arena (G League, AHL, 17,500)  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
New Richmond Arena (no tenants, 17,500)  
Jacksonville Memorial (ECHL, AFL 14,000)  
Richmond Coliseum (no tenants, 13,500)

# Annual Attendance

Multi-Tenant - Larger Markets  
2 million - 3.2 million



Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
Capital One Arena, DC

## **Barclays Center, NY**

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
Talking Stick Resort Arena, Phoenix  
Amway Center, Orlando  
KFC Yum! Center, Louisville

Sprint Center, Kansas City (18,900)  
Pinnacle Bank Arena (NCAA 15,500)  
BOK Center (ECHL 19,100)  
Van Andel Arena (AHL 11,000)  
New Richmond Arena (G League, AHL, 17,500)  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
New Richmond Arena (no tenants, 17,500)  
Jacksonville Memorial (ECHL, AFL 14,000)  
Richmond Coliseum (no tenants, 13,500)



# Annual Attendance

Single - Tenant in Larger Markets  
1 million – 1.9 Million

Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
Capital One Arena, DC  
Barclays Center, NY

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
**Talking Stick Resort Arena, Phoenix**  
Amway Center, Orlando  
KFC Yum! Center, Louisville

**Public / Private Development**  
Private Operations

Sprint Center, Kansas City (18,900)  
Pinnacle Bank Arena (NCAA 15,500)  
BOK Center (ECHL 19,100)  
Van Andel Arena (AHL 11,000)  
New Richmond Arena (G League, AHL, 17,500)  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
New Richmond Arena (no tenants, 17,500)  
Jacksonville Memorial (ECHL, AFL 14,000)  
Richmond Coliseum (no tenants, 13,500)



# Annual Attendance



Mid-Sized Markets  
300,000 – 1 Million

Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
Capital One Arena, DC  
Barclays Center, NY

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
Talking Stick Resort Arena, Phoenix  
Amway Center, Orlando  
KFC Yum! Center, Louisville

## **Sprint Center, Kansas City (18,900)**

Pinnacle Bank Arena (NCAA 15,500)  
BOK Center (ECHL 19,100)  
Van Andel Arena (AHL 11,000)  
New Richmond Arena (G League, AHL, 17,500)  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
New Richmond Arena (no tenants, 17,500)  
Jacksonville Memorial (ECHL, AFL 14,000)  
Richmond Coliseum (no tenants, 13,500)

**Public / Private Development**  
**Private Operations**

# Annual Attendance



Mid-Sized Markets  
300,000 – 1 Million

Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
Capital One Arena, DC  
Barclays Center, NY

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
Talking Stick Resort Arena, Phoenix  
Amway Center, Orlando  
KFC Yum! Center, Louisville

## **Sprint Center, Kansas City (18,900)**

Pinnacle Bank Arena (NCAA 15,500)  
BOK Center (ECHL 19,100)  
Van Andel Arena (AHL 11,000)  
New Richmond Arena (G League, AHL, 17,500)  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
New Richmond Arena (no tenants, 17,500)  
Jacksonville Memorial (ECHL, AFL 14,000)  
Richmond Coliseum (no tenants, 13,500)

## **1,000,000, Kansas City, MO**

790,000, Lincoln NE  
750,000, Tulsa OK  
732,000, Grand Rapids, MI  
683,000, Richmond, VA  
655,000, Providence RI  
515,000, Fresno, CA  
510,000, Sioux Falls, SD  
509,000, Richmond, VA  
500,000, Jacksonville, FL  
320,000, Richmond, VA



# Annual Attendance



Mid-Sized Markets  
300,000 – 1 Million

Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
Capital One Arena, DC  
Barclays Center, NY

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
Talking Stick Resort Arena, Phoenix  
Amway Center, Orlando  
KFC Yum! Center, Louisville

Sprint Center, Kansas City (18,900)  
**Pinnacle Bank Arena (NCAA 15,500)**  
BOK Center (ECHL 19,100)  
Van Andel Arena (AHL 11,000)  
New Richmond Arena (G League, AHL, 17,500)  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
New Richmond Arena (no tenants, 17,500)  
Jacksonville Memorial (ECHL, AFL 14,000)  
Richmond Coliseum (no tenants, 13,500)

1,000,000, Kansas City, MO  
**790,000, Lincoln NE**  
750,000, Tulsa OK  
732,000, Grand Rapids, MI  
683,000, Richmond, VA  
655,000, Providence RI  
515,000, Fresno, CA  
510,000, Sioux Falls, SD  
509,000, Richmond, VA  
500,000, Jacksonville, FL  
320,000, Richmond, VA

# Annual Attendance



Mid-Sized Markets  
300,000 – 1 Million

Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
Capital One Arena, DC  
Barclays Center, NY

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
Talking Stick Resort Arena, Phoenix  
Amway Center, Orlando  
KFC Yum! Center, Louisville

Sprint Center, Kansas City (18,900)  
Pinnacle Bank Arena (NCAA 15,500)  
BOK Center (ECHL 19,100)  
**Van Andel Arena (AHL 11,000)**  
New Richmond Arena (G League, AHL, 17,500)  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
New Richmond Arena (no tenants, 17,500)  
Jacksonville Memorial (ECHL, AFL 14,000)  
Richmond Coliseum (no tenants, 13,500)

1,000,000, Kansas City, MO  
790,000, Lincoln NE  
750,000, Tulsa OK  
**732,000, Grand Rapids, MI**  
683,000, Richmond, VA  
655,000, Providence RI  
515,000, Fresno, CA  
510,000, Sioux Falls, SD  
509,000, Richmond, VA  
500,000, Jacksonville, FL  
320,000, Richmond, VA

# Annual Attendance

## 683,000



Richmond

Mid-Sized Markets  
300,000 – 1 Million

Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
Capital One Arena, DC  
Barclays Center, NY

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
Talking Stick Resort Arena, Phoenix  
Amway Center, Orlando  
KFC Yum! Center, Louisville

Sprint Center, Kansas City (18,900)  
Pinnacle Bank Arena (NCAA 15,500)  
BOK Center (ECHL 19,100)  
Van Andel Arena (AHL 11,000)  
**New Richmond Arena (G League, AHL, 17,500)**  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
New Richmond Arena (no tenants, 17,500)  
Jacksonville Memorial (ECHL, AFL 14,000)  
Richmond Coliseum (no tenants, 13,500)

1,000,000, Kansas City, MO  
790,000, Lincoln NE  
750,000, Tulsa OK  
732,000, Grand Rapids, MI  
**683,000, Richmond, VA**  
655,000, Providence RI  
515,000, Fresno, CA  
510,000, Sioux Falls, SD  
509,000, Richmond, VA  
500,000, Jacksonville, FL  
320,000, Richmond, VA



# Annual Attendance

## 509,000



Richmond

Mid-Sized Markets  
300,000 – 1 Million

Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
Capital One Arena, DC  
Barclays Center, NY

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
Talking Stick Resort Arena, Phoenix  
Amway Center, Orlando  
KFC Yum! Center, Louisville

Sprint Center, Kansas City (18,900)  
Pinnacle Bank Arena (NCAA 15,500)  
BOK Center (ECHL 19,100)  
Van Andel Arena (AHL 11,000)  
New Richmond Arena (G League, AHL, 17,500)  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
**New Richmond Arena (no tenants, 17,500)**  
Jacksonville Memorial (ECHL, AFL 14,000)  
Richmond Coliseum (no tenants, 13,500)

1,000,000, Kansas City, MO  
790,000, Lincoln NE  
750,000, Tulsa OK  
732,000, Grand Rapids, MI  
683,000, Richmond, VA  
655,000, Providence RI  
515,000, Fresno, CA  
510,000, Sioux Falls, SD  
**509,000, Richmond, VA**  
500,000, Jacksonville, FL  
320,000, Richmond, VA

# Annual Attendance

## 320,000



Richmond

Mid-Sized Markets  
300,000 – 1 Million

Madison Square Garden, NY  
Staples Center, LA  
American Airlines Center, Dallas  
Wells Fargo Center, Philadelphia  
Capital One Arena, DC  
Barclays Center, NY

Quicken Loans Arena, Cleveland  
Fiserv Forum, Milwaukee  
Talking Stick Resort Arena, Phoenix  
Amway Center, Orlando  
KFC Yum! Center, Louisville

Sprint Center, Kansas City (18,900)  
Pinnacle Bank Arena (NCAA 15,500)  
BOK Center (ECHL 19,100)  
Van Andel Arena (AHL 11,000)  
New Richmond Arena (G League, AHL, 17,500)  
Dunkin Donuts Center (AHL 14,000)  
Save Mart Center (NCAA 15,500)  
Denny Sanford Premier Center (USHL 12,000)  
New Richmond Arena (no tenants, 17,500)  
Jacksonville Memorial (ECHL, AFL 14,000)  
**Richmond Coliseum (no tenants, 13,500)**

1,000,000, Kansas City, MO  
790,000, Lincoln NE  
750,000, Tulsa OK  
732,000, Grand Rapids, MI  
683,000, Richmond, VA  
655,000, Providence RI  
515,000, Fresno, CA  
510,000, Sioux Falls, SD  
509,000, Richmond, VA  
500,000, Jacksonville, FL  
**320,000, Richmond, VA**



LOWER BOWL  
T = 30-40"

180 and Stage Seating Manifest	
Floor Seating	
Accessible Floor Positions and Companion	30
Floor Chairs	1780
1800	
Lower Bowl Seating	
Accessible Positions and Companion	68
Lower Bowl General Seating	5059
5/27	
Premium Seating	
Club Seating Accessible and Companion	10
Club Seating opposite stage	141
Club Tables	112
Club Drinkable Goods	146
Suite Seats	288
9/15	
Upper Bowl Seating	
Upper Bowl Accessible and Companion	92
Upper Bowl General Seating	5509
6/28	
Total	14852



MIDDLE BOWL  
C = 30-40"



UPPER BOWL  
 $r = 30.0'$

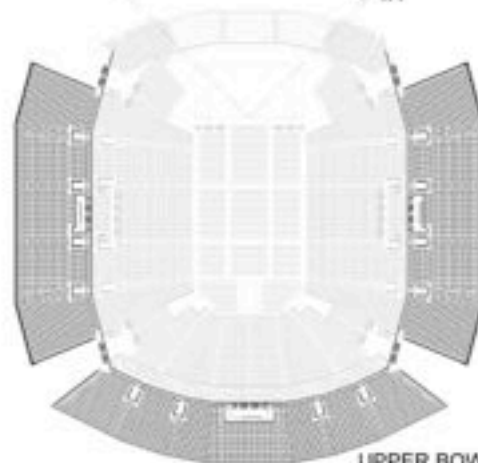


LOWER BOWL  
17" x 30" x 17"

270 End Stage Seating Manifest	
Floor Seating	
Accessible-Floor Positions and Companion	30
Floor Chairs	178
1800	
Lower Bowl Seating	
Accessible-Positions and Companion	84
Lower Bowl Director-General Seating	52
Lower Bowl General Seating	5475
6611	
Premium Seating	
Club Seating-Accessible and Companion	10
Club Seating opposite stage	381
Club Suites	112
Suite Director/Studio	144
Suite Boxes	238
615	
Upper Bowl Seating	
Accessible-Positions and Companion	88
Upper Bowl General Seating	4328
4506	
Total 16722	



**MIDDLE BOWL**  
17" x 30" x 4"



**UPPER BOWL**  
17" x 30" OF

**Project:**  
Redwood Avenue  
Project Address:  
Fresno, CA  
**Prepared For:**  
Capitol City Partners, LLC  
Bakersfield, California  
**Future Cities:**  
1 East Orange Street  
Bakersfield, CA 93307

[illegible]

**Author's address:**  
 Dr. J. H. van der Linde  
 Department of Statistics  
 University of Pretoria  
 Pretoria 0002, South Africa  
 E-mail: johan.vanderlinde@up.ac.za

A	B
D	C
F	E

NOT FOR  
CONSTRUCTION

## 275 AND 180 END STAGE SEATING MANIFEST



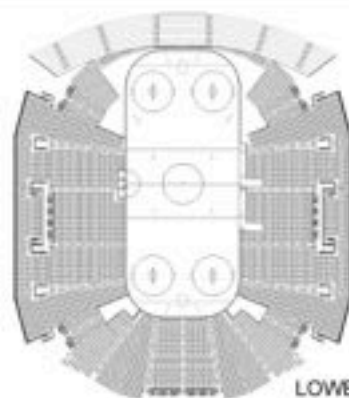
Center Stage Seating Manifest

Floor Sealing	
Accessories Floor Fasteners and Components	20
Floor Chains	15/18
1026	

Lower Bow Seating	
Accessable Positions and Companion	94
Lower Bow Critical General Seating	113
Lower Bow General Seating	7178
Retractable Seating	607
<b>Total</b>	<b>8302</b>

Club Seating Accessible and Companion	10
Club Seating opposite stage	361
Club Suites	112
Suite District Seats	168
Suite Seats	258
<b>Total</b>	<b>619</b>

Upper Bowl Seating	
Upper Bowl Accessibility and Companion	68
Upper Bowl General Seating	\$328
\$396	
Total: 17,660	

Hockey Bowl Seating Manifest

Lower Bowel Sealing	
Accessable Positions and Comparison	64
Lower Bowel General Sealing	6125

Premium Seating	
Club Seating Accessible and Companion	90
Club Seating opposite stage	361
Club Suites	112
Suite General Seating	144
Suite Seats	289
<b>Total</b>	<b>696</b>

Upper Boat Seating	
Upper Boat Accessible and Companion	68
Upper Boat General Seating	8125
8005	
Total: 12500	



Project:  
High-Speed Rail  
Project Address:  
  
Prepared for:  
Capital City Partners, LLC  
Baltimore, Virginia

**Future Cities**  
1 East Street, New  
Haven, CT 06511

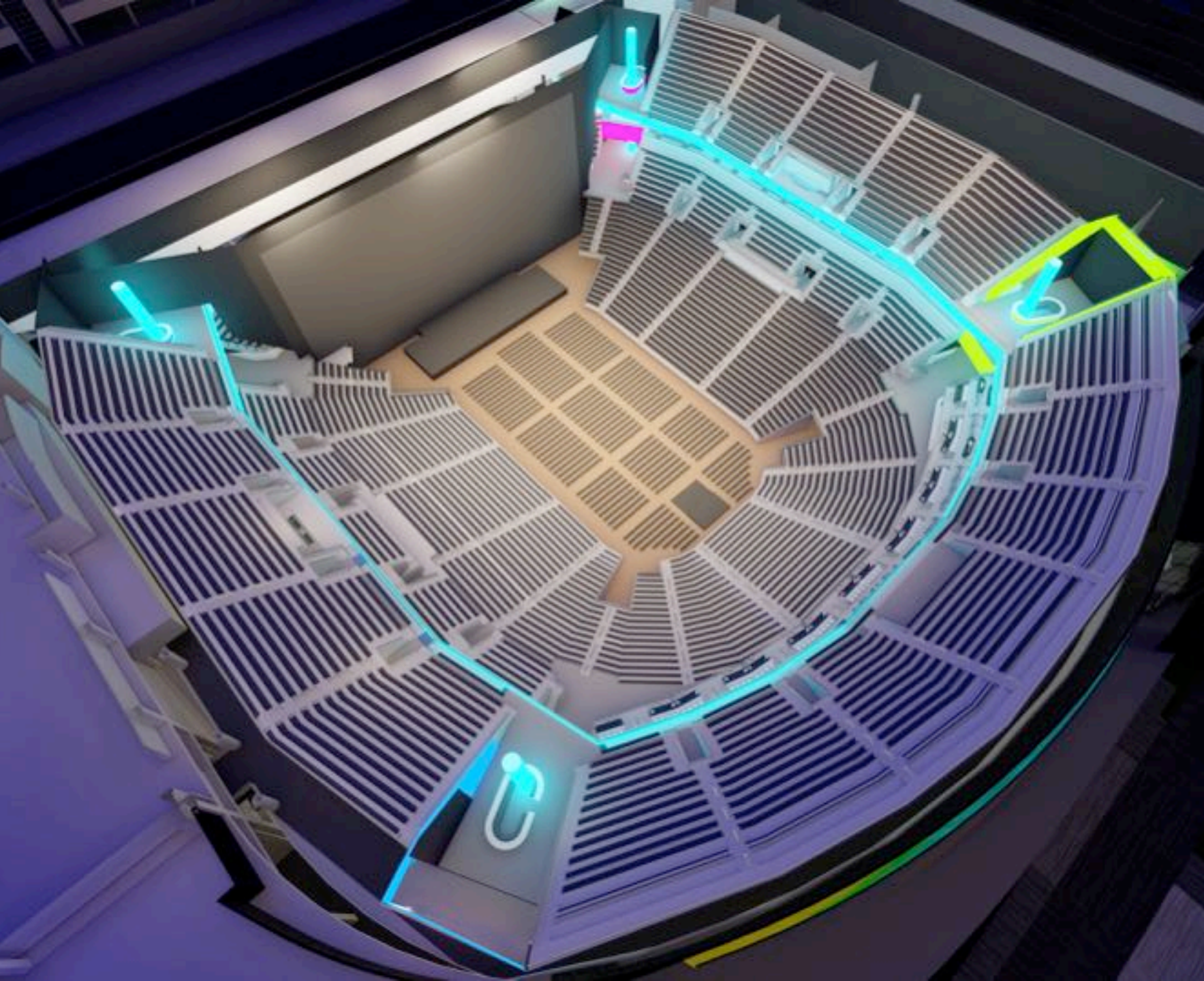


Hogrefe • A Division of Psychological Corp.  
540 University Avenue, Suite 200  
Urbana, IL 61821-3009  
Tel: 309/244-0000  
Fax: 309/244-0001  
E-mail: [info@hogrefe.com](mailto:info@hogrefe.com)  
Web: [www.hogrefe.com](http://www.hogrefe.com)

**Journal of Interpersonal Violence**  
30(12)  
DOI: 10.1177/0886260515595001  
© The Author(s) 2015  
Reprints and permissions:  
sagepub.com/journalsPermissions.nav  
http://jiv.sagepub.com  
http://jiv.sagepub.com

A	B
C	D
E	F



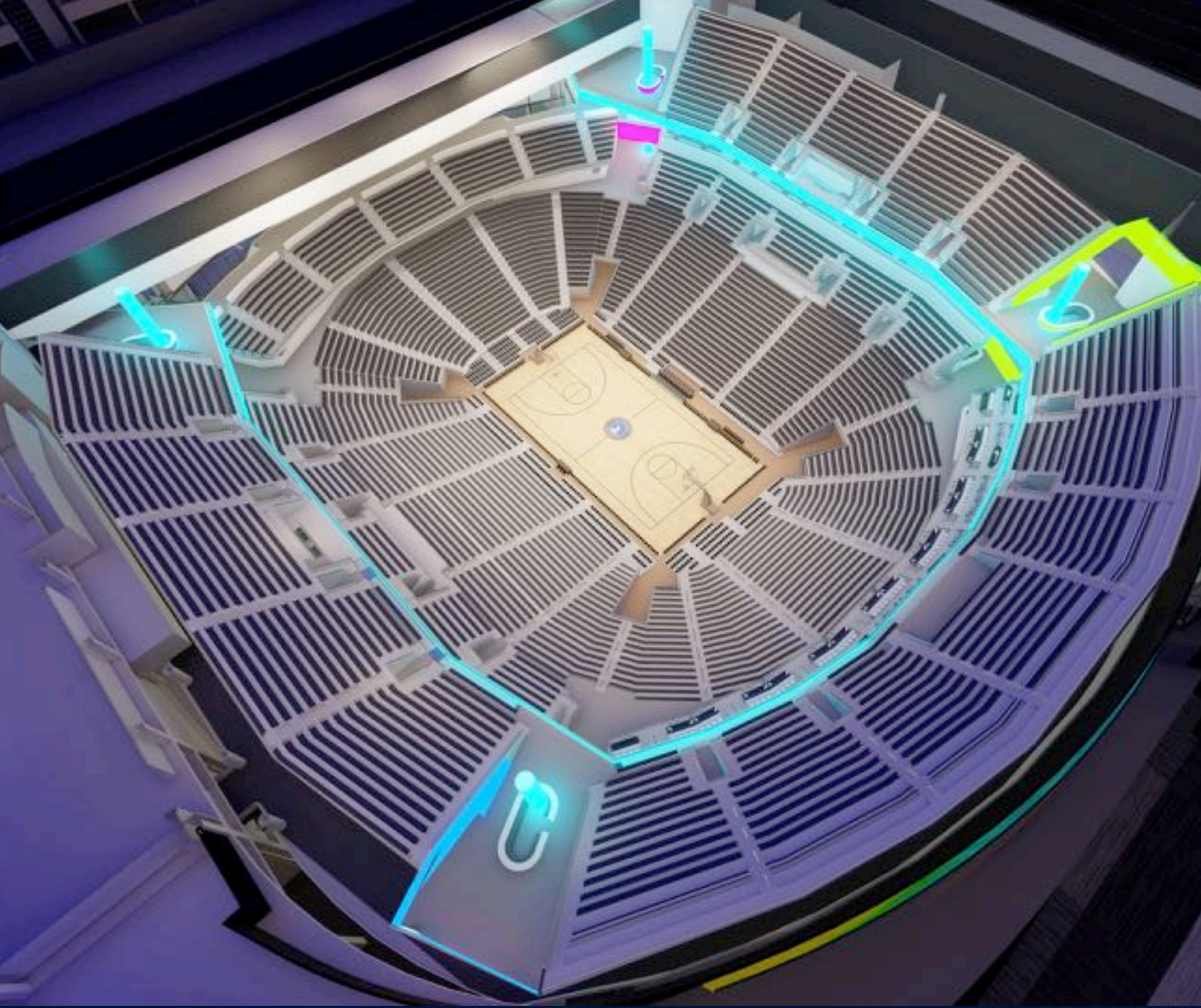


## End Stage Concert

Floor Seating	1,800
Lower Bowl	5,727
Premium Seating	915
Upper Bowl	6,380

**14,822**  
12,467 JPJ



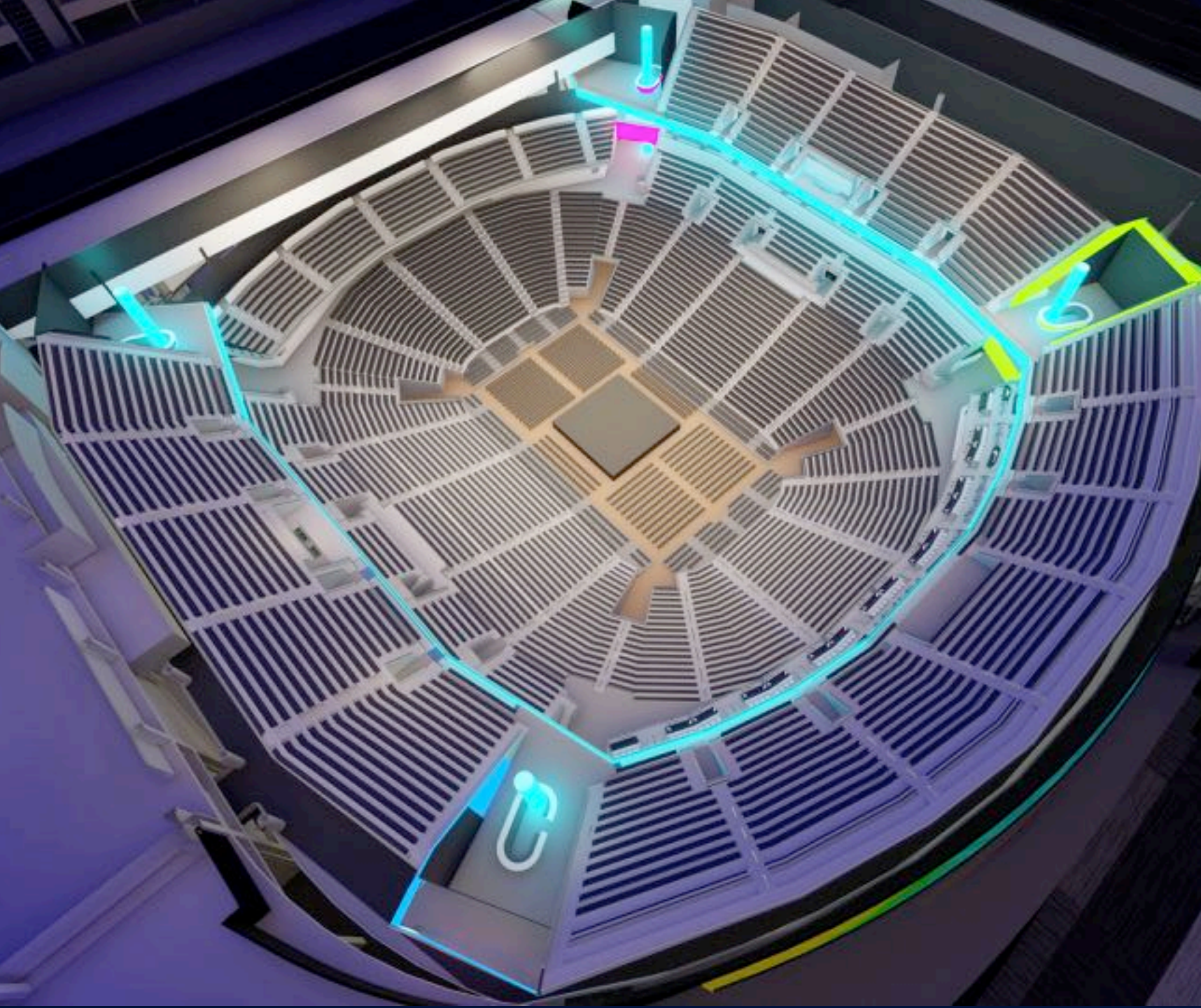


## Basketball

Floor Seating	640
Lower Bowl	8,303
Premium Seating	915
Upper Bowl	6,396

**16,254**  
14,593 JPJ



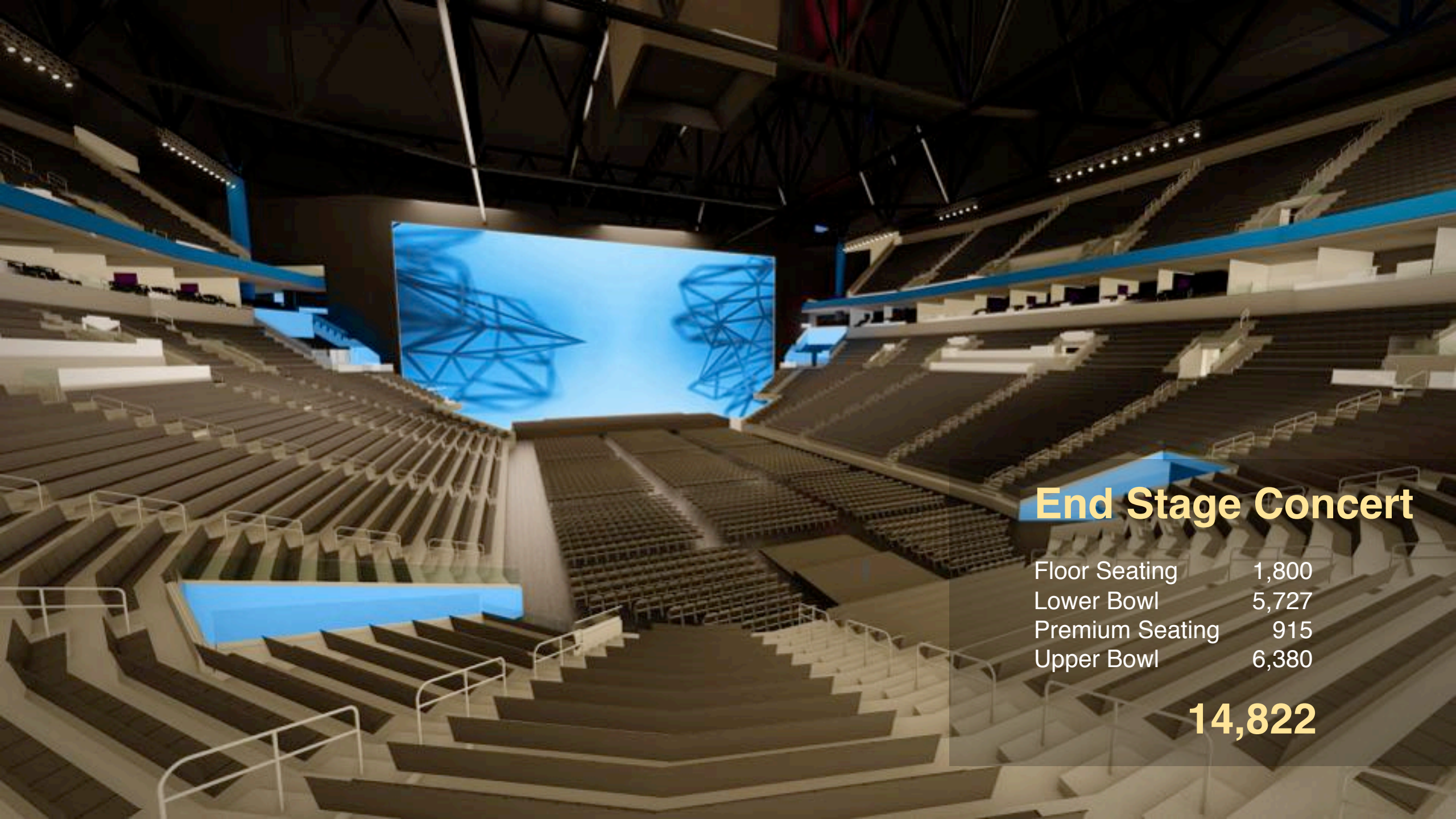


## Center Stage

Floor Seating	1,536
Lower Bowl	8,303
Premium Seating	915
Upper Bowl	6,396

**17.150**  
15,405 JPJ





## End Stage Concert

Floor Seating	1,800
Lower Bowl	5,727
Premium Seating	915
Upper Bowl	6,380

**14,822**





## Basketball

Floor Seating	640
Lower Bowl	8,303
Premium Seating	915
Upper Bowl	6,396

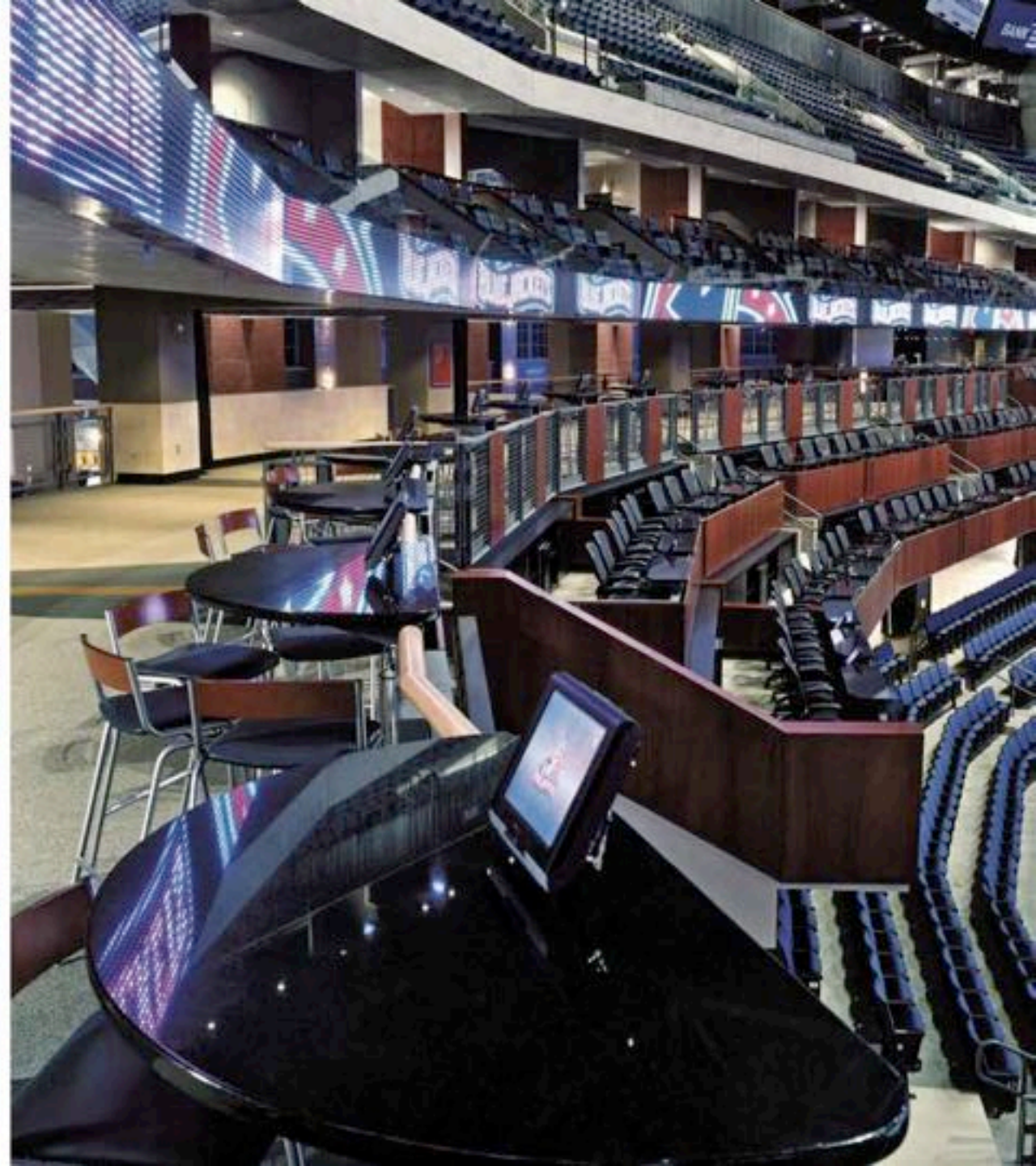
**16,254**



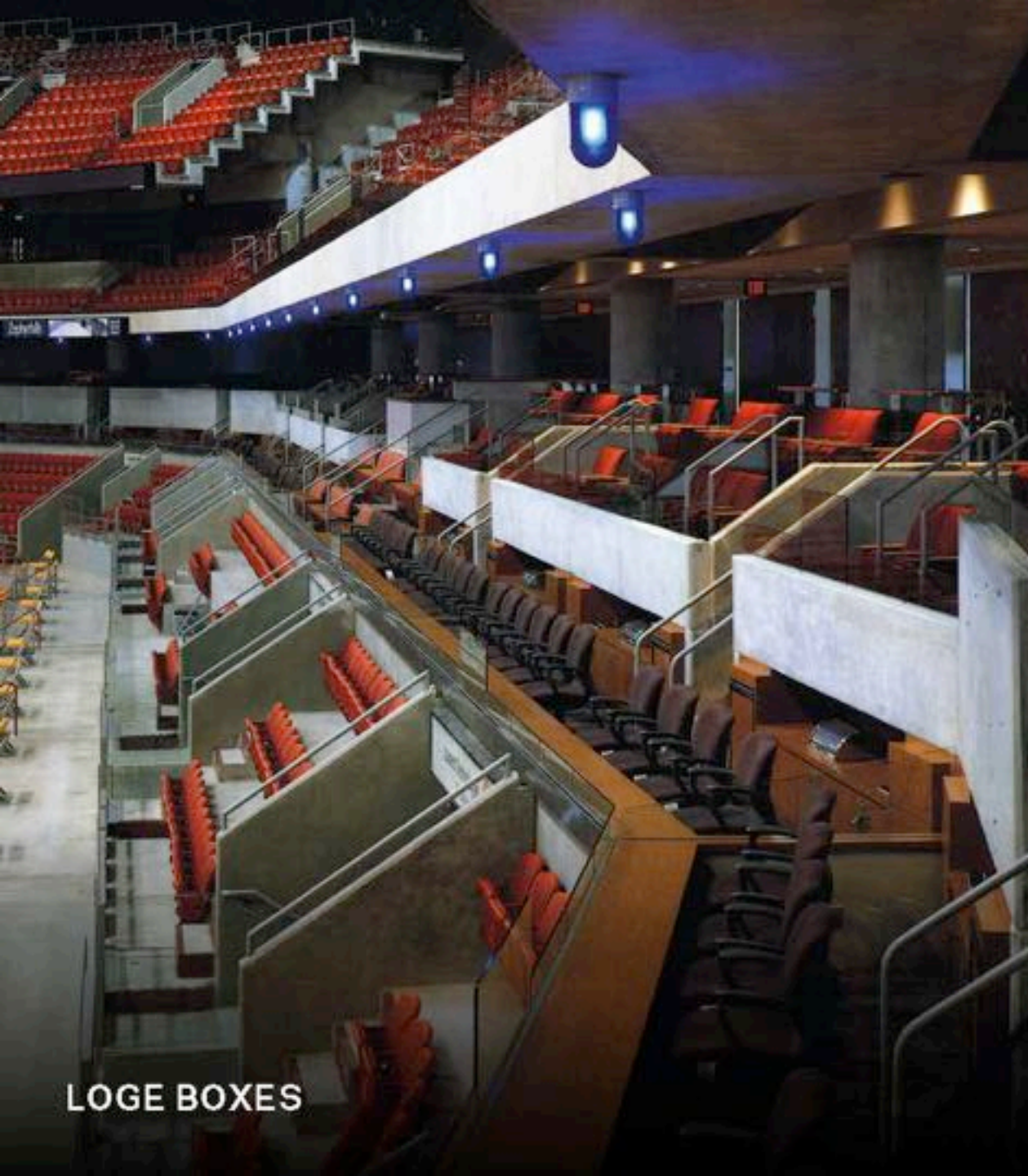
SELECTED PORTFOLIO  
PREMIUM PRODUCTS + INDUSTRY TRENDS











LOGE BOXES







UNIQUE TO MARKET | ZACH BROWN SOCIAL CLUB





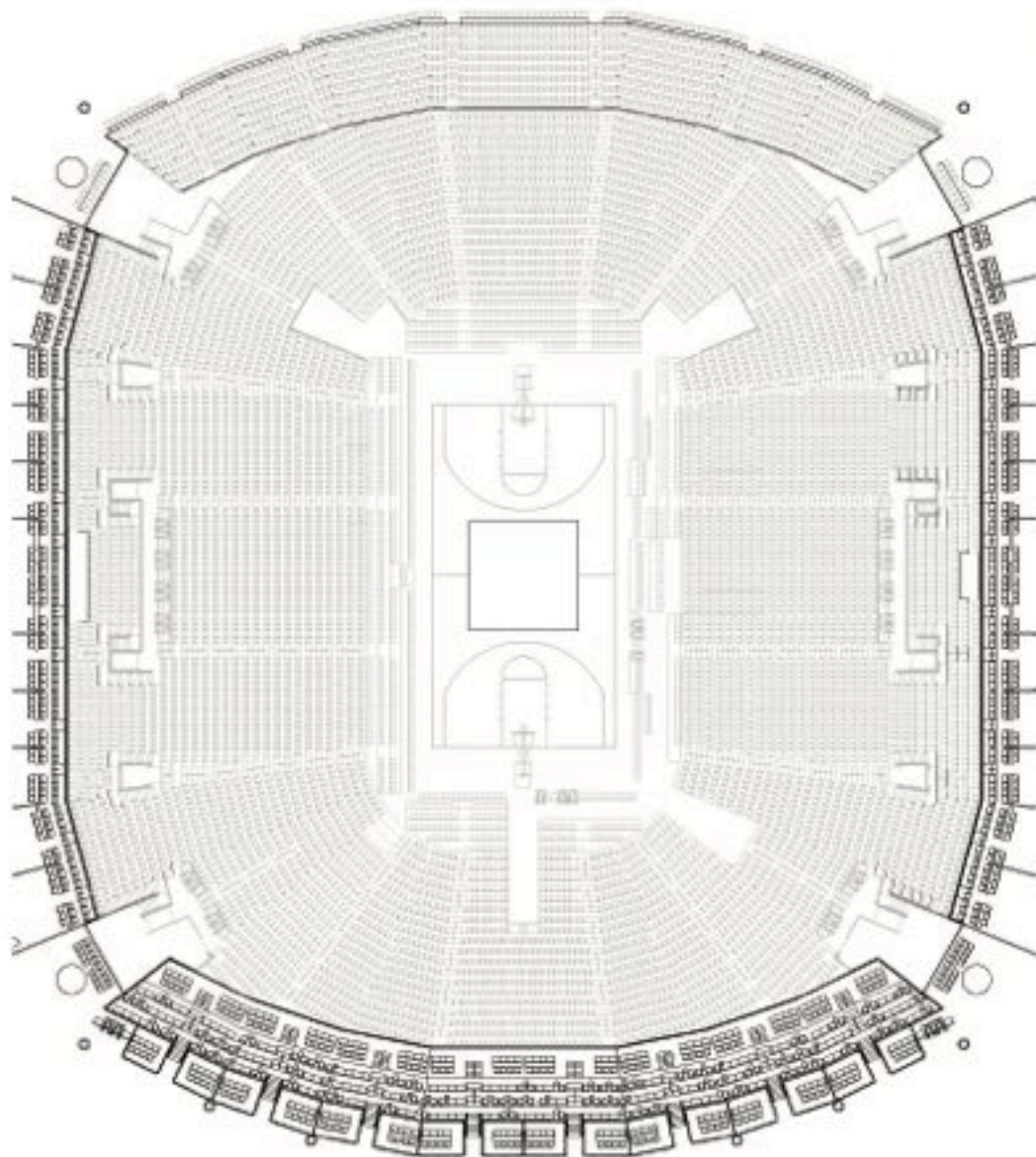
CLUBS





CLUBS





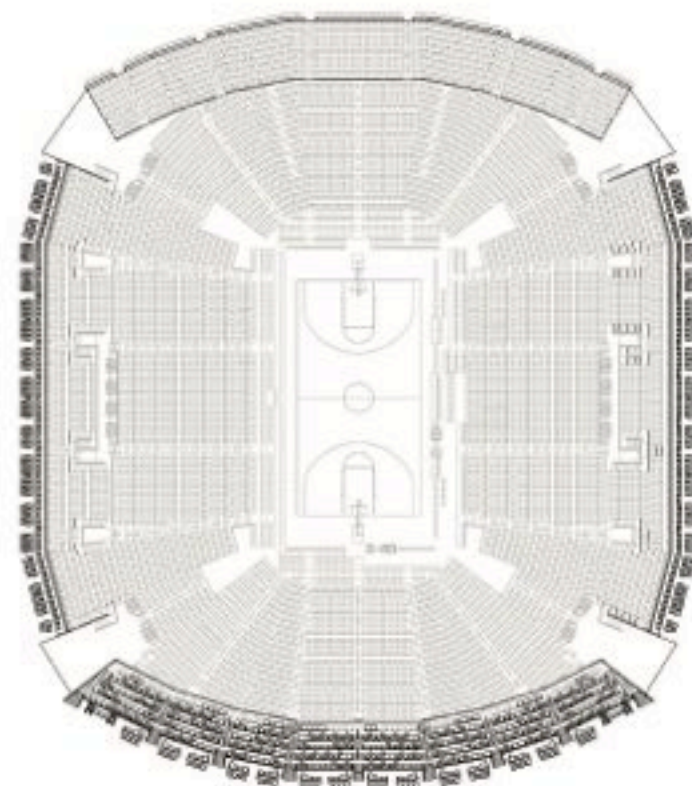
Premium Seating Manifest	
Club Seating Accessible and Companion	8
Club Seating opposite stage	226
Club Box Seating	252
Corner Suite Seating	64
Suite Drinkrail Stools	148
Suite Seats	296
Premium Bowl Total 994	

**994** Premium Total

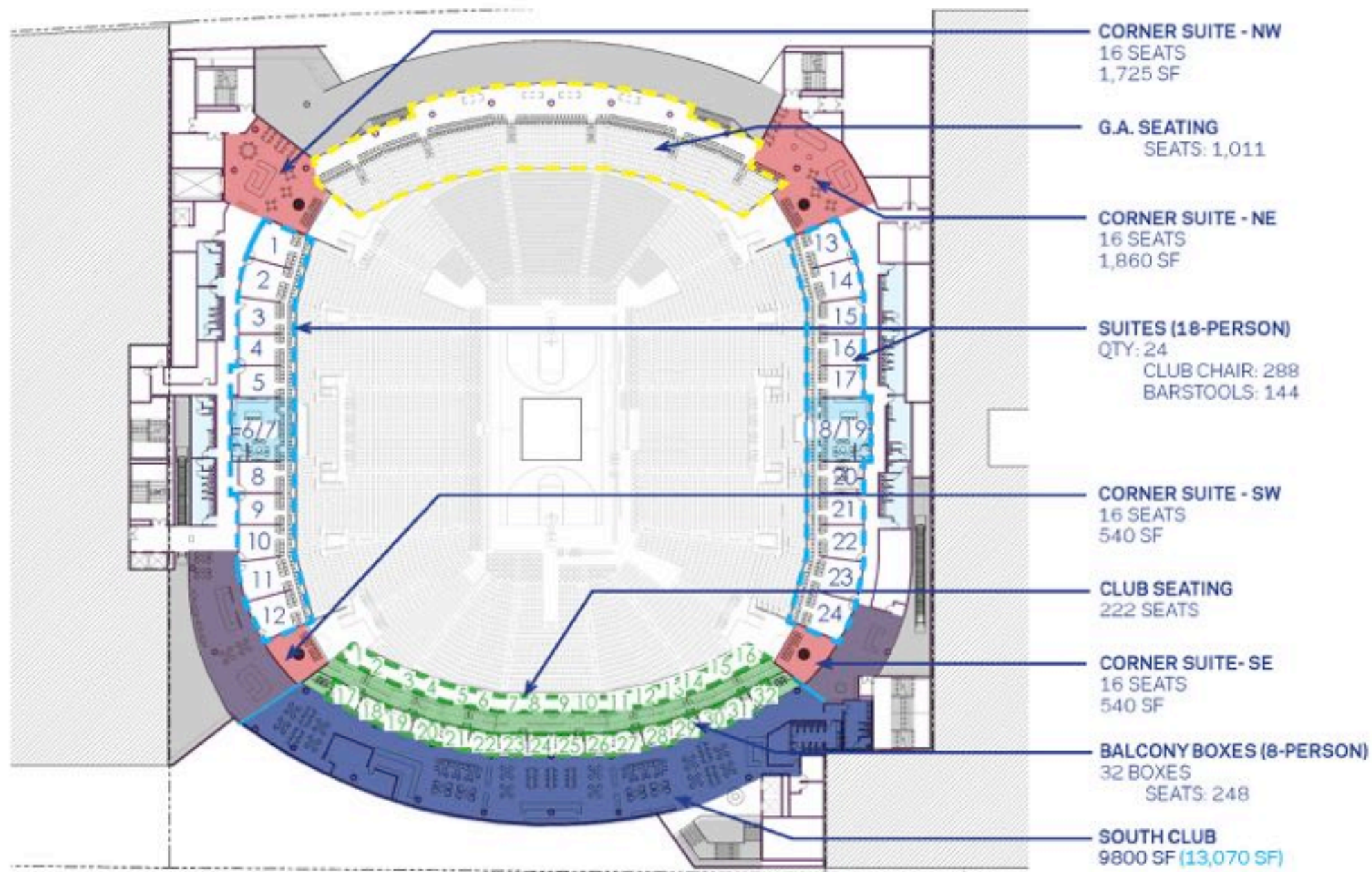
- Added corner suites
- Front Balcony Boxes i.l.o. Club seats
- Aisle adjustment at South end

Premium Seating Manifest	
Club Seating Accessible and Companion	10
Club Seating opposite stage	361
Club Box Seating	112
Suite Drinkrail Stools	144
Suite Seats	268
Premium Bowl Total 915	

*915 Previous Premium Total*

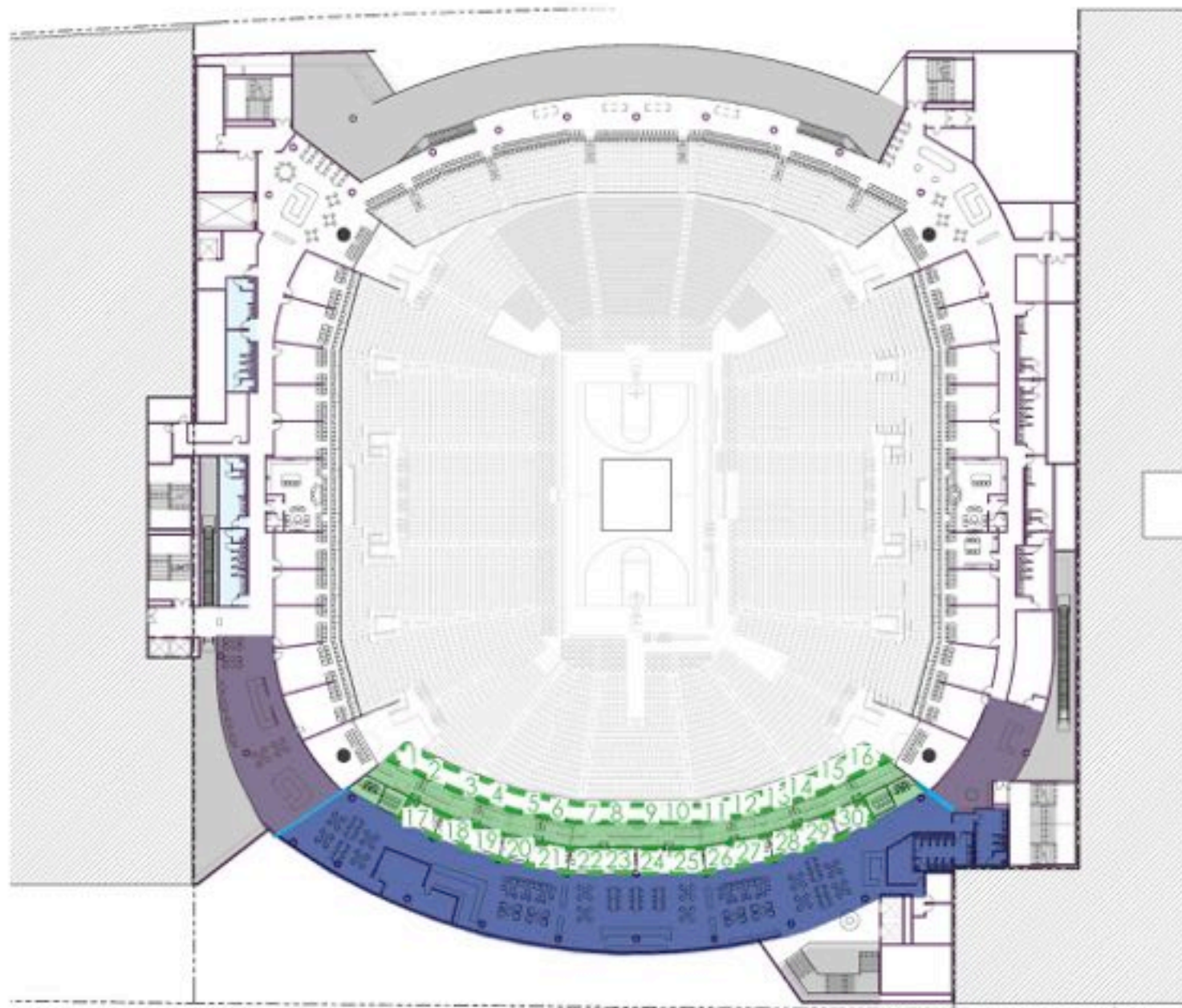






SUITE LEVEL: BREAKDOWN





**CLUB INFORMATION**

9800 SF (13,070 SF)

494 PATRONS

**RESTROOM CALCULATION:**

MENS

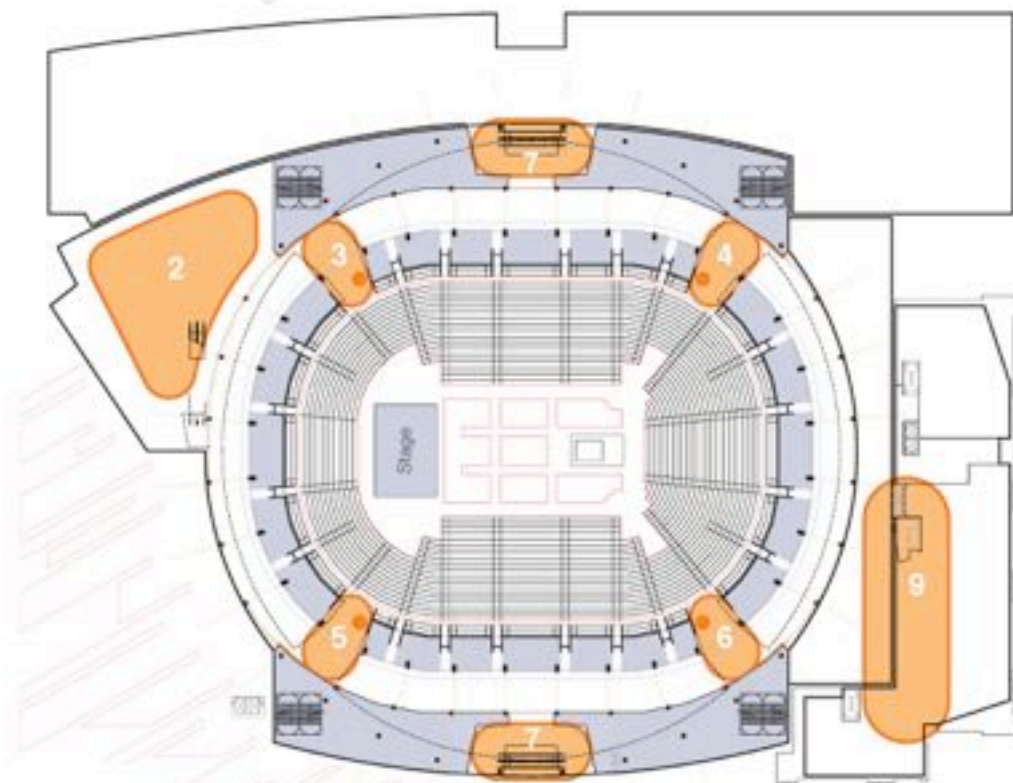
W.C.: (1:30) + LAVS (1:150)

WOMENS

W.C.: (1:30) + LAVS (1:100)

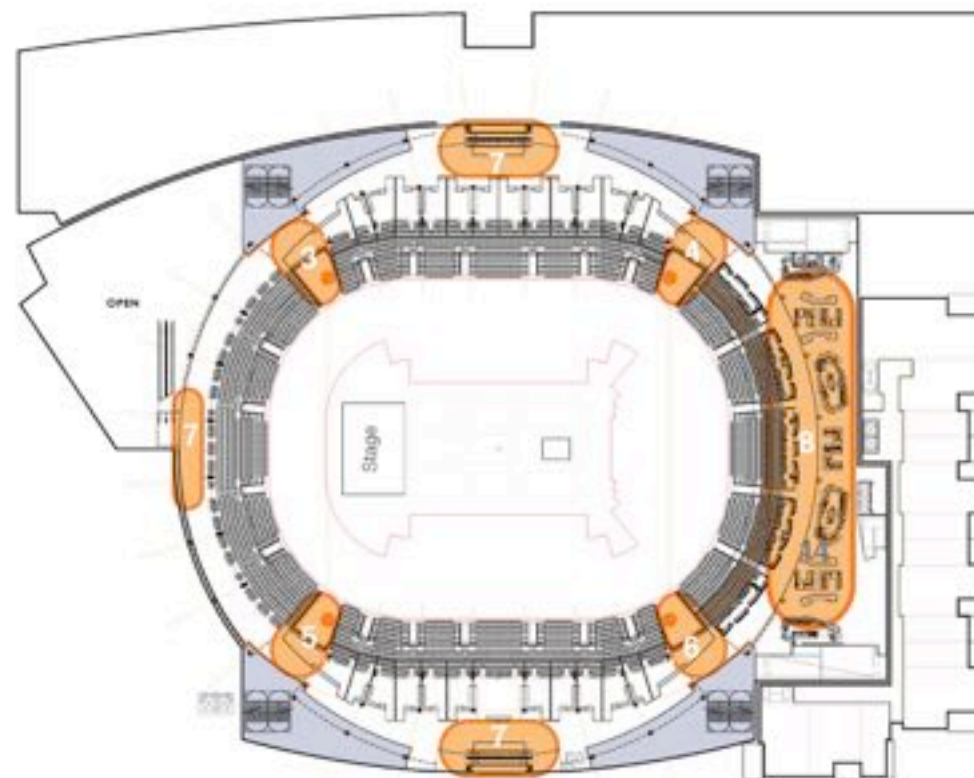
- 1 Arena Naming
- 2 Entry Pavilion
- 3 Quad Showcase
- 4 Quad Showcase
- 5 Quad Showcase
- 6 Quad Showcase
- 7 Suite Level, Entries and Lounge
- 9 Main Level Bar / Lounge

### Main Concourse Level

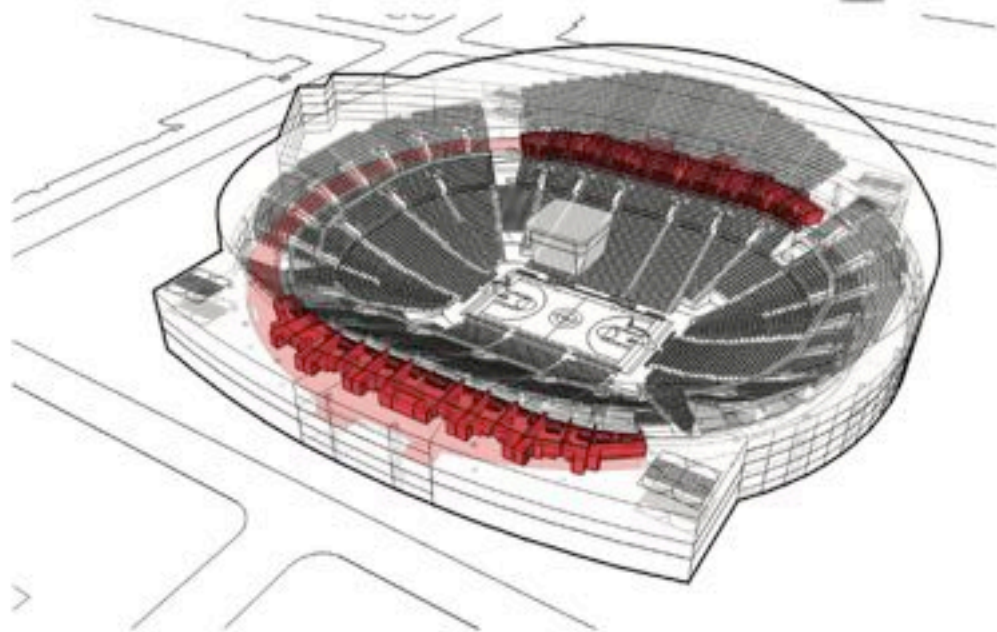
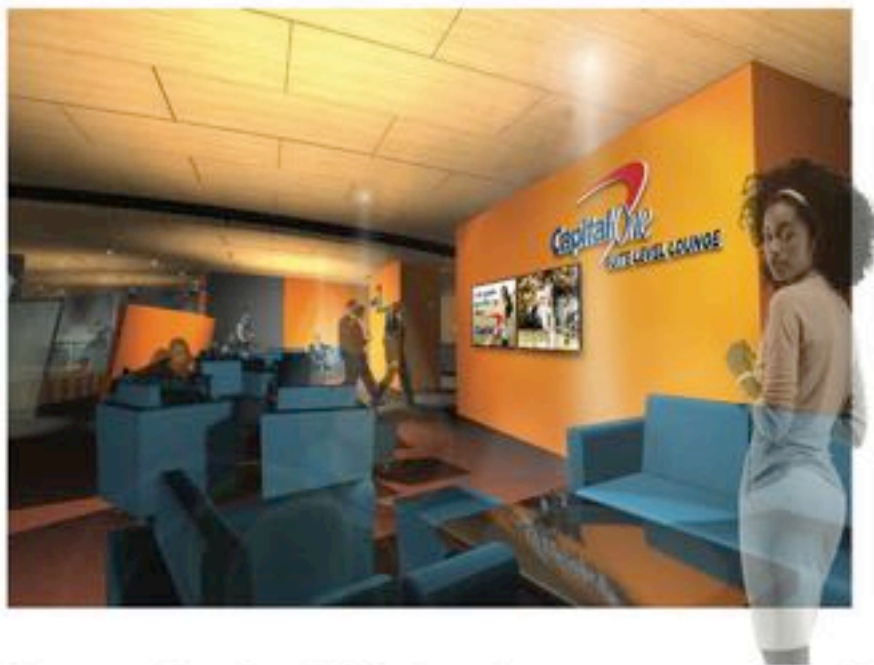


- 3 Quad Showcase
- 4 Quad Showcase
- 5 Quad Showcase
- 6 Quad Showcase
- 7 Suite Level, Entries and Lounge
- 8 Arena Club Naming Partner

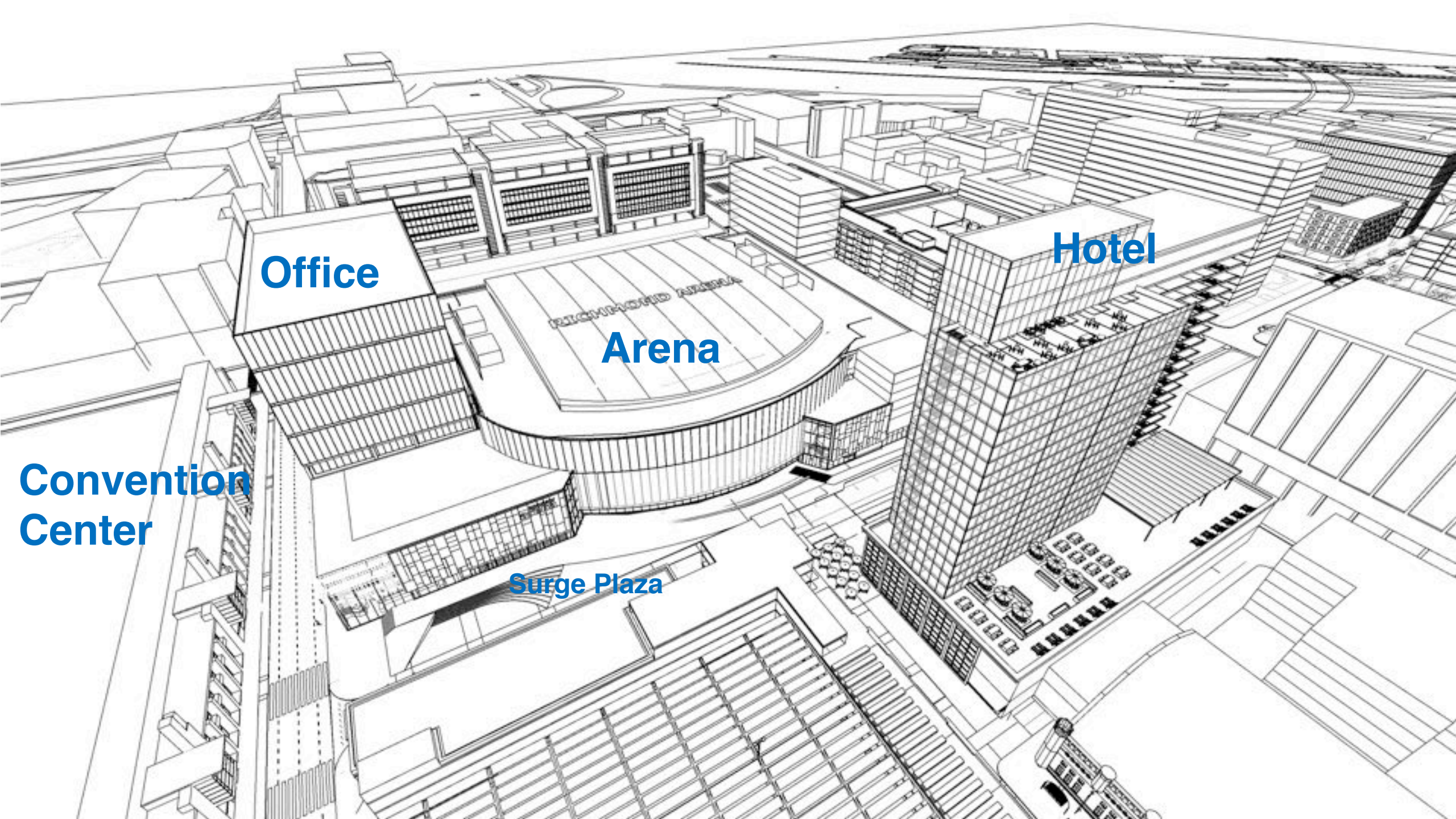
### Premium Concourse Level











Office

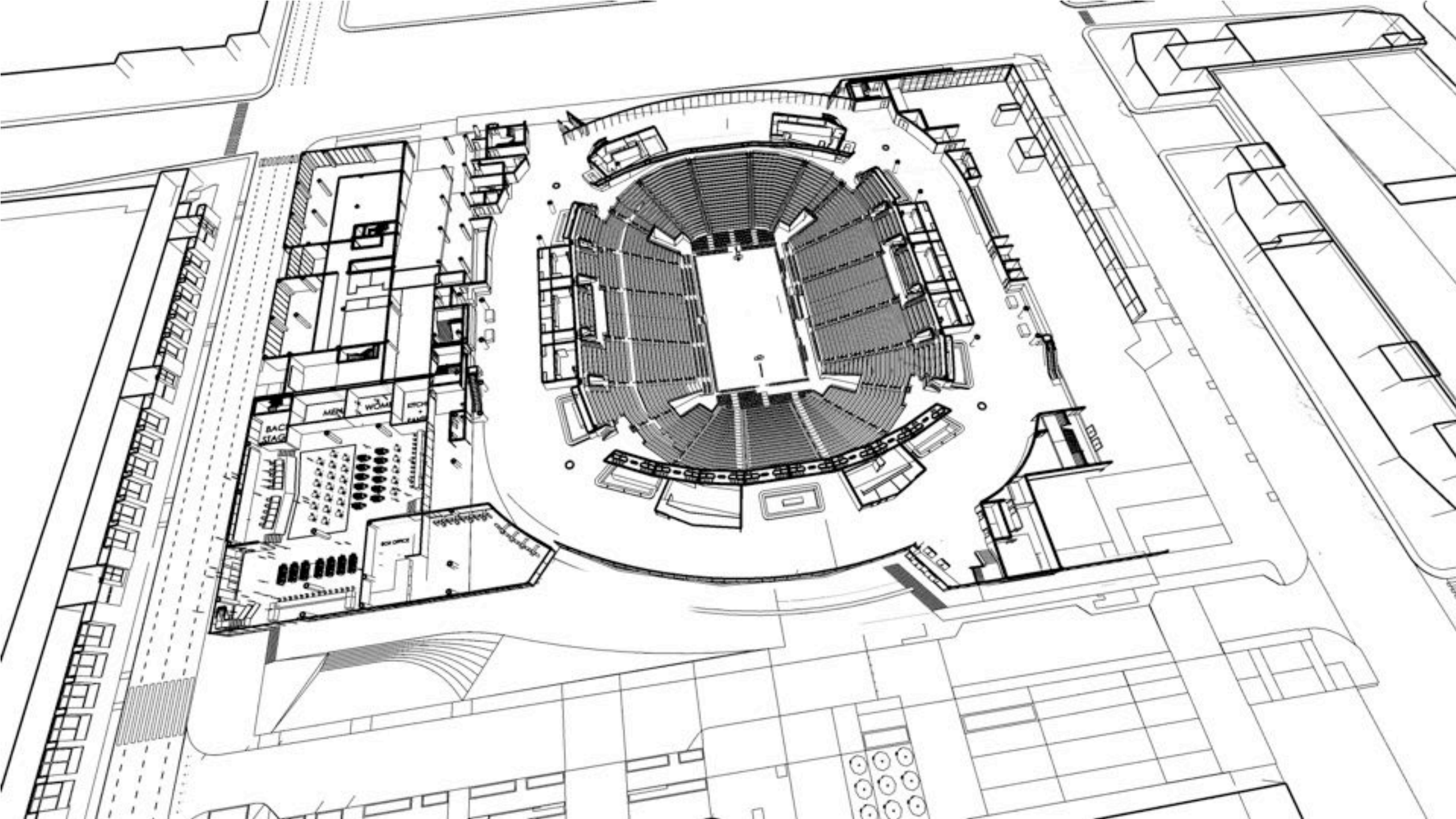
Hotel

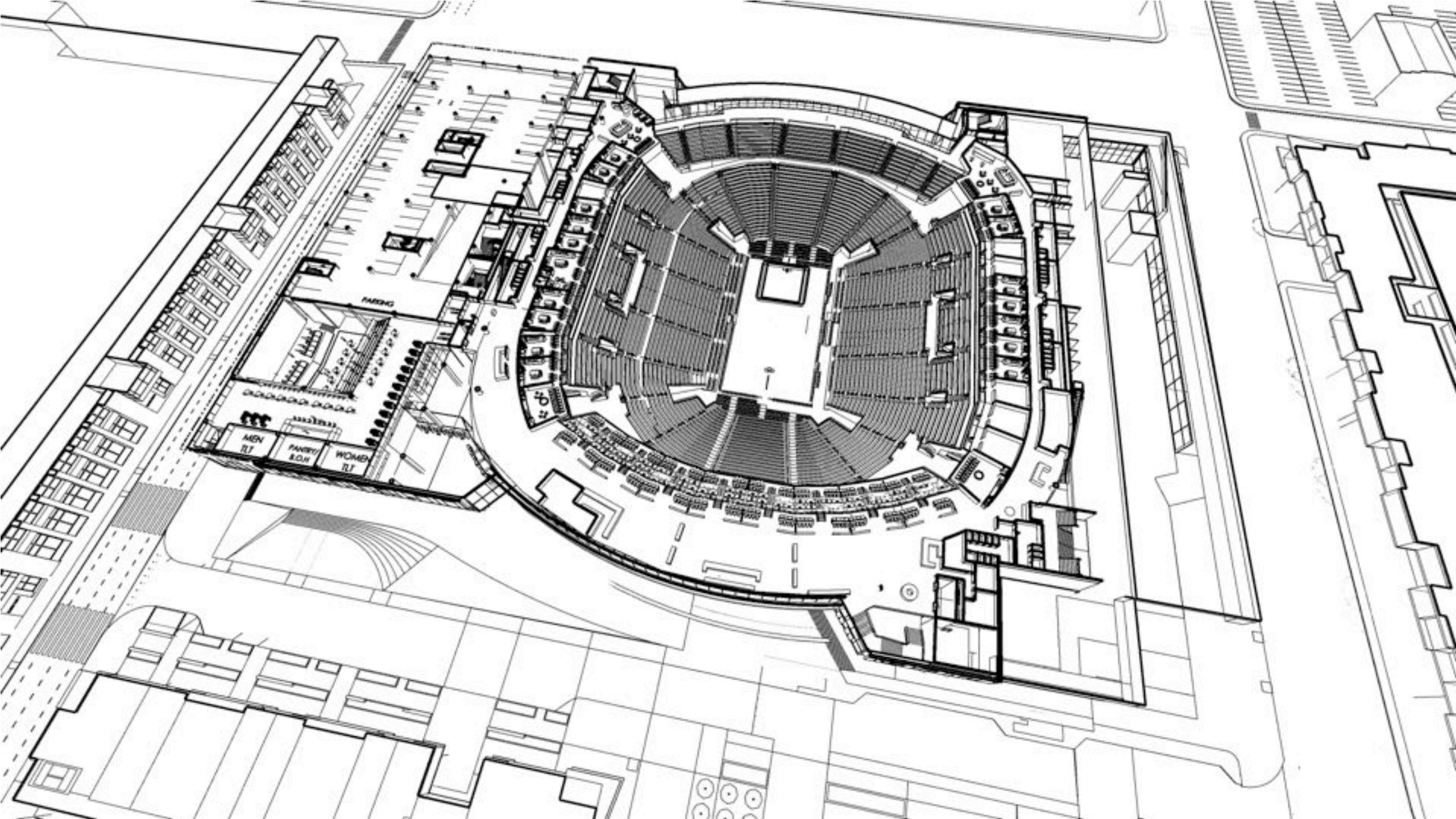
Arena

Convention  
Center

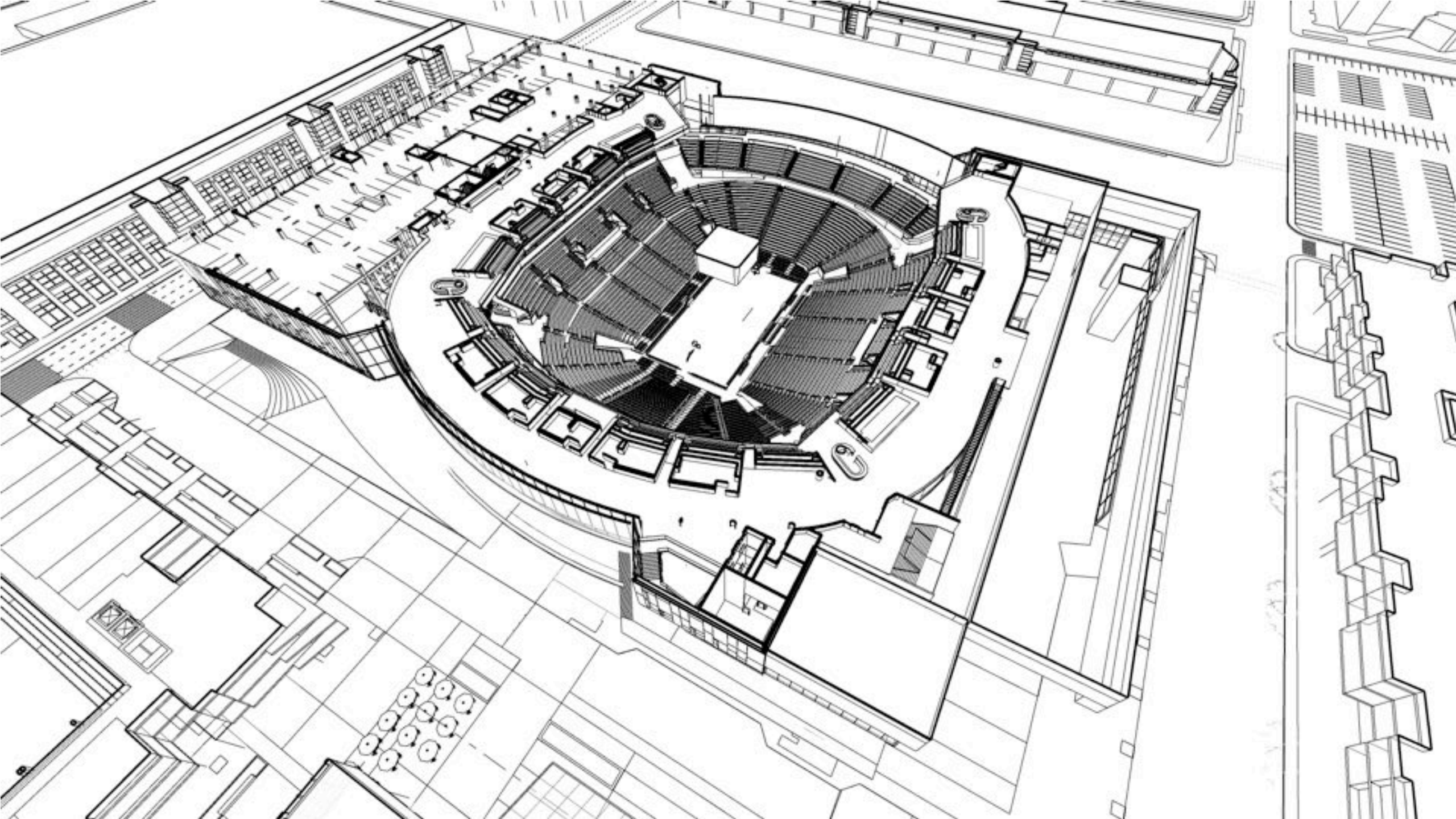
Surge Plaza











# 5 Arena Anchored Mixed-use Development





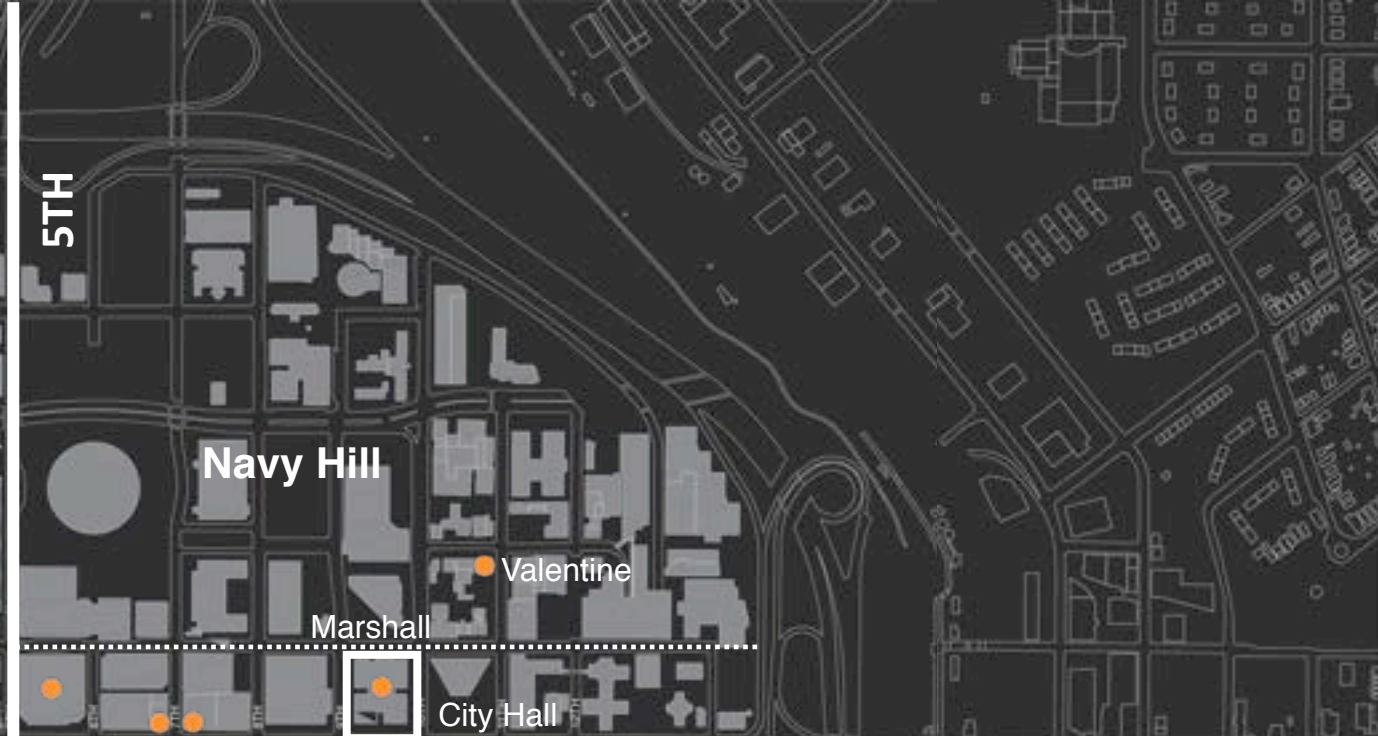
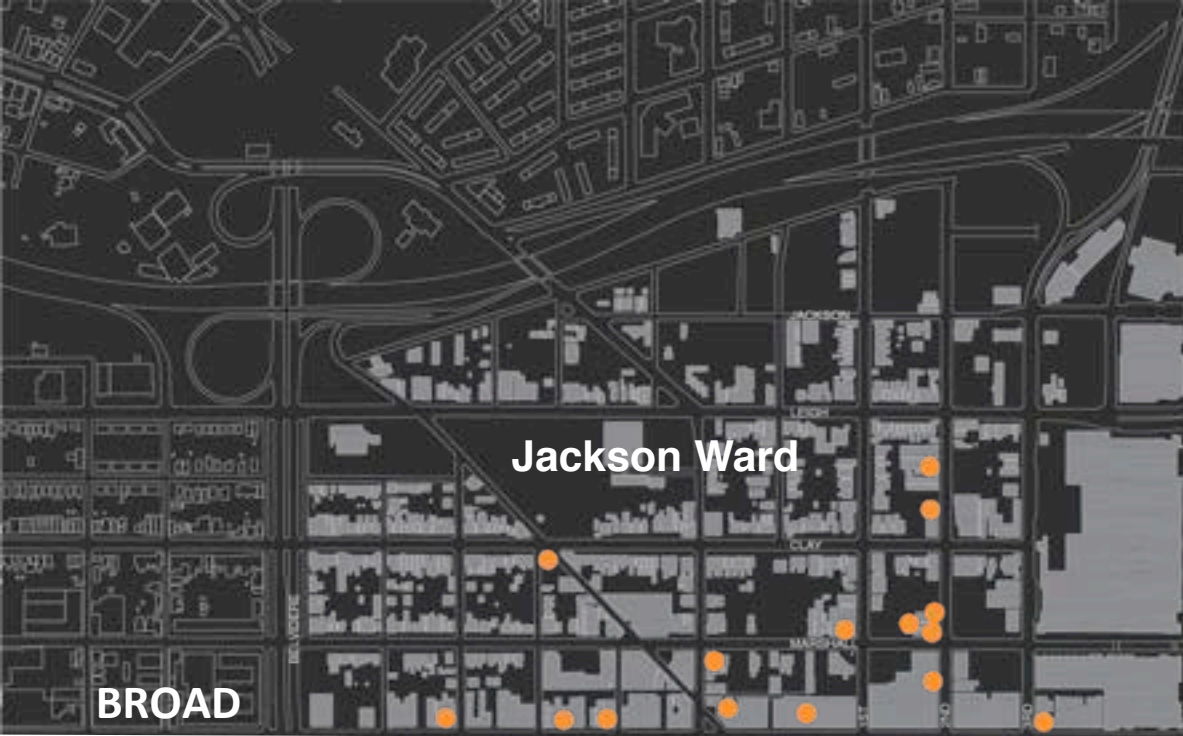




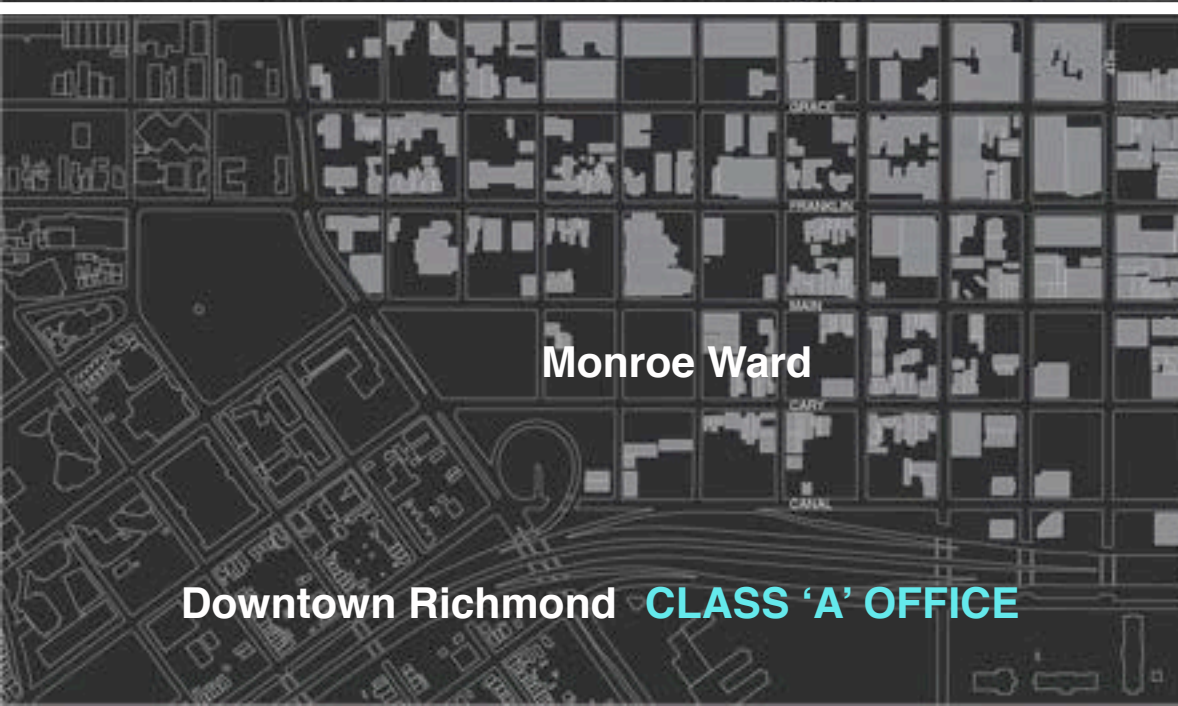
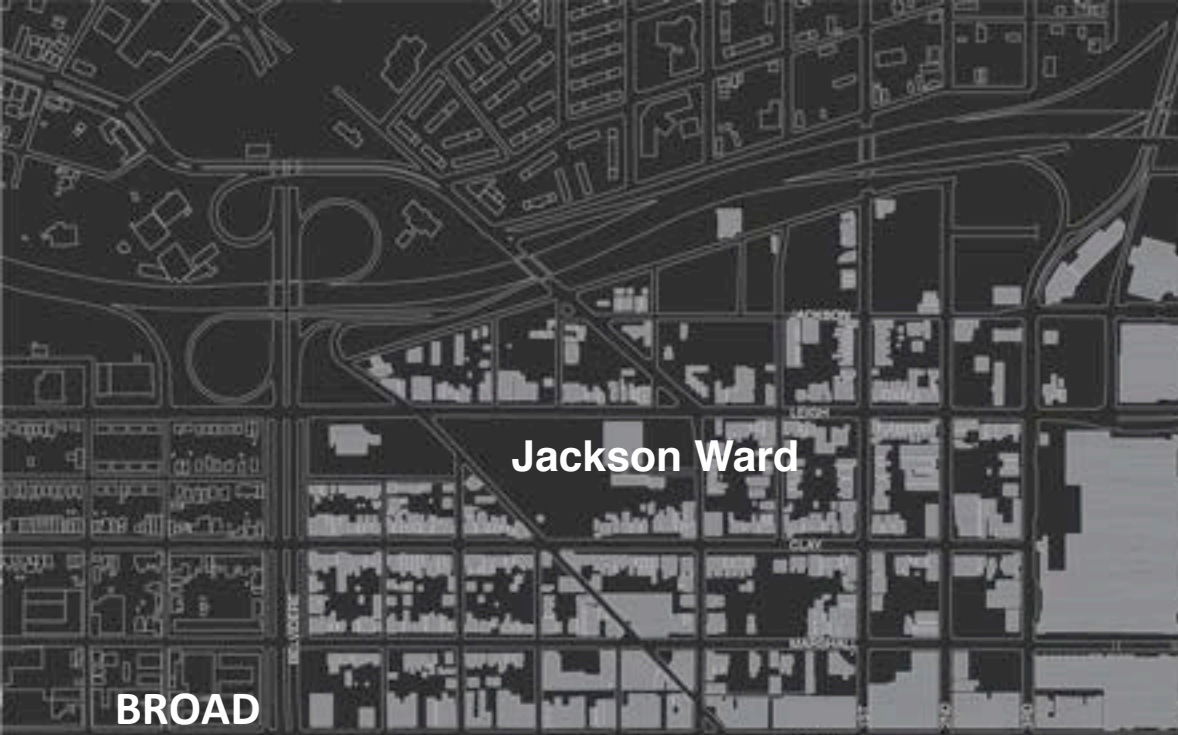
***“Navy Hill will displace existing businesses and residents”***

***“New restaurant uses will cannibalize existing businesses”***



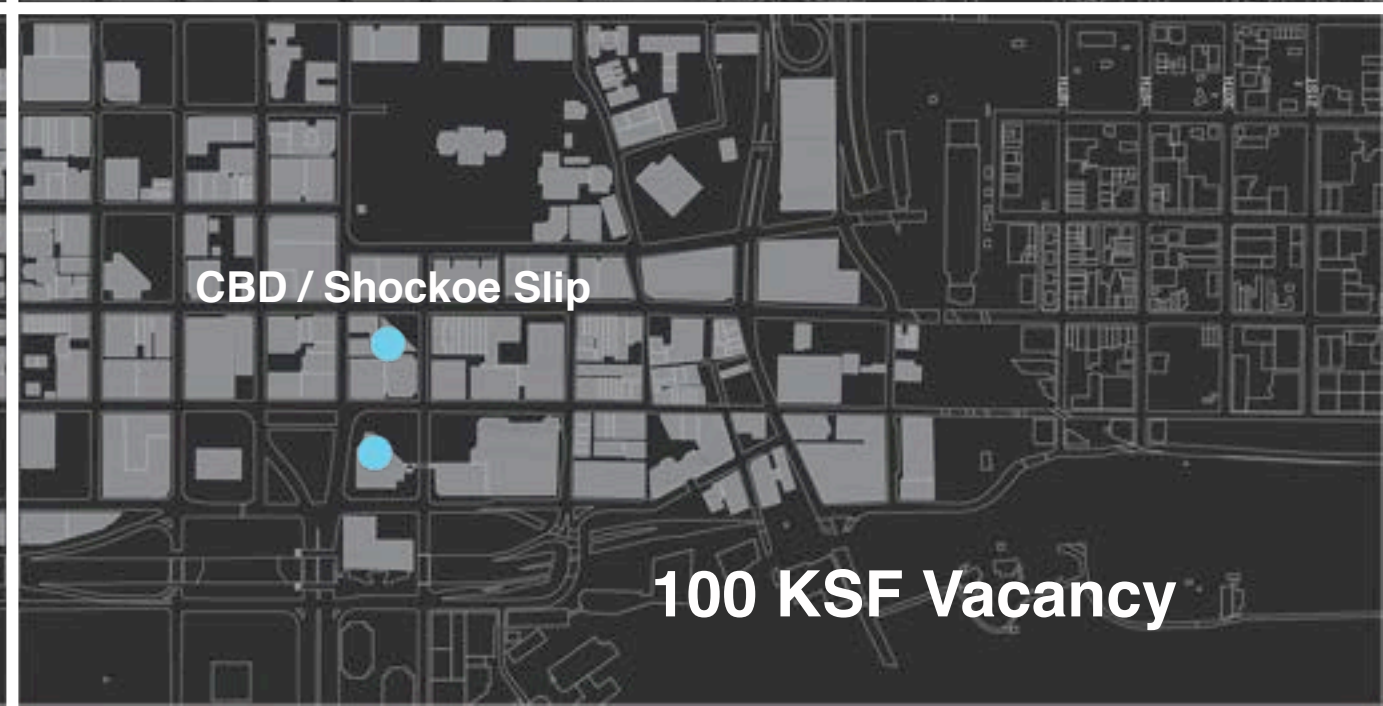
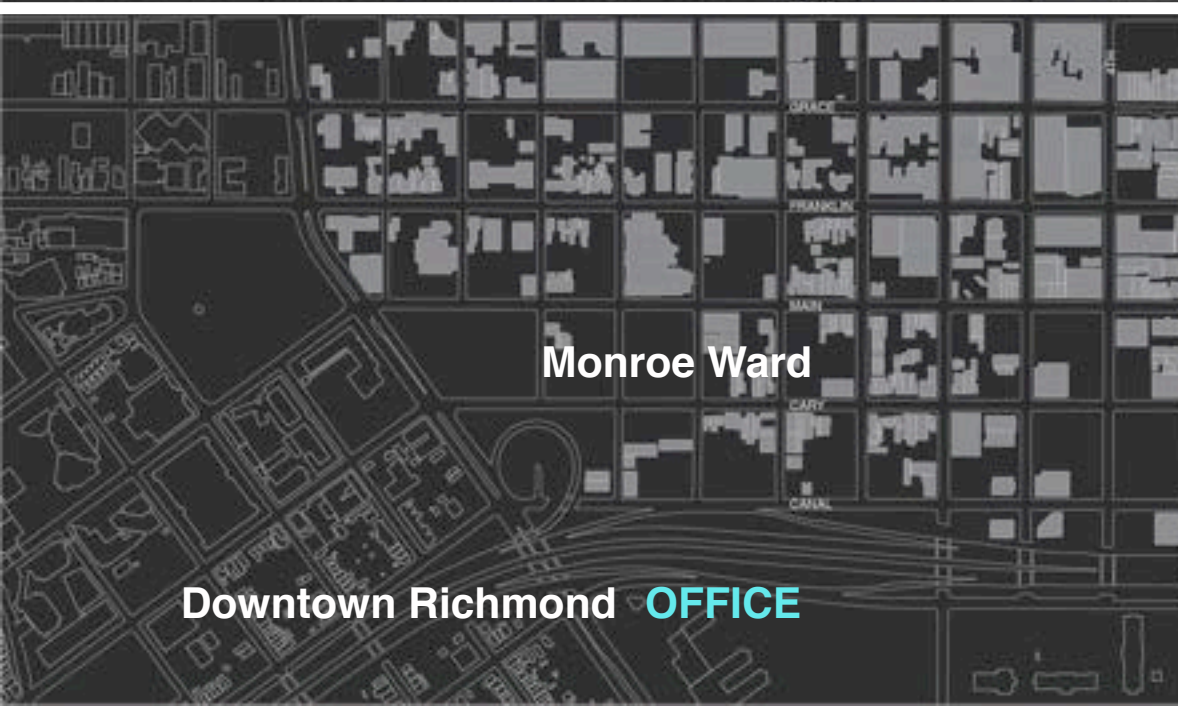
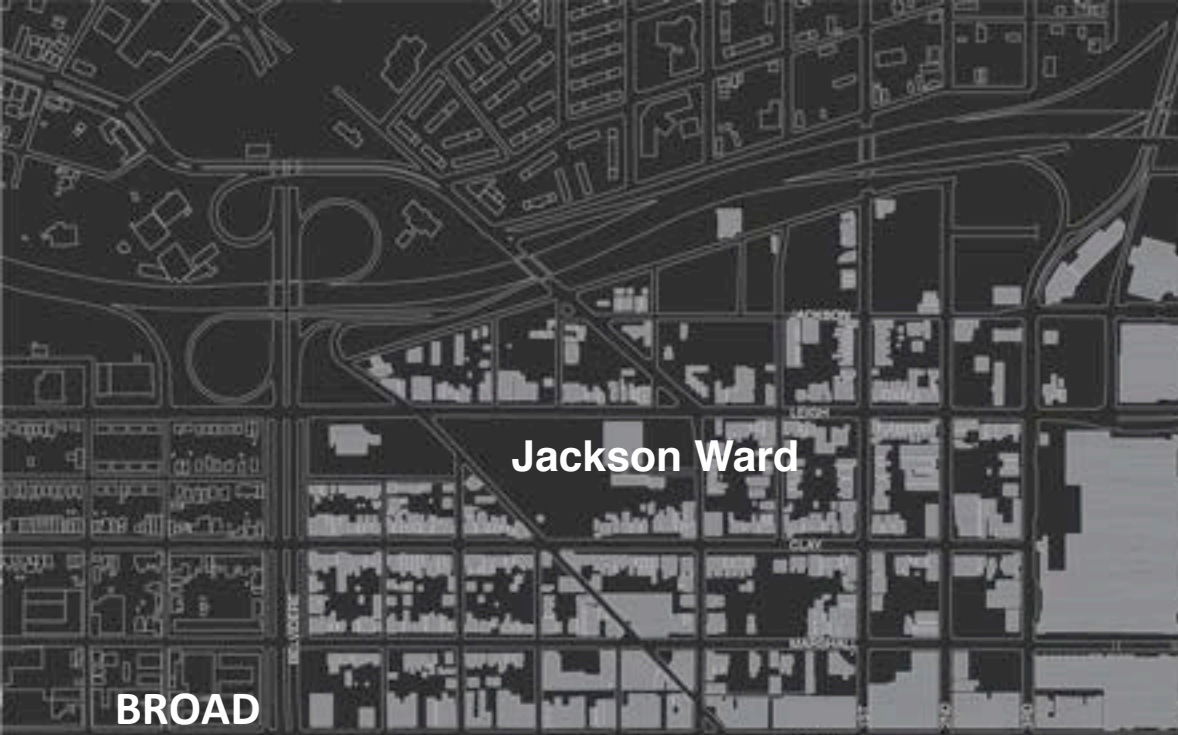




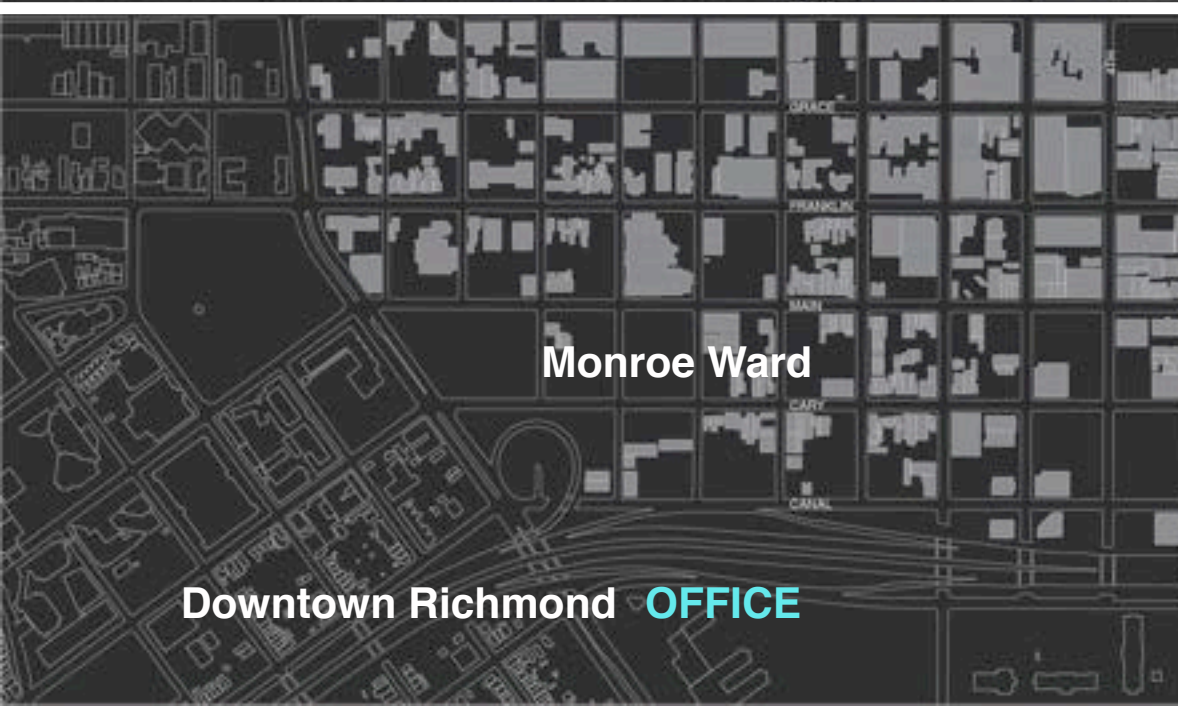
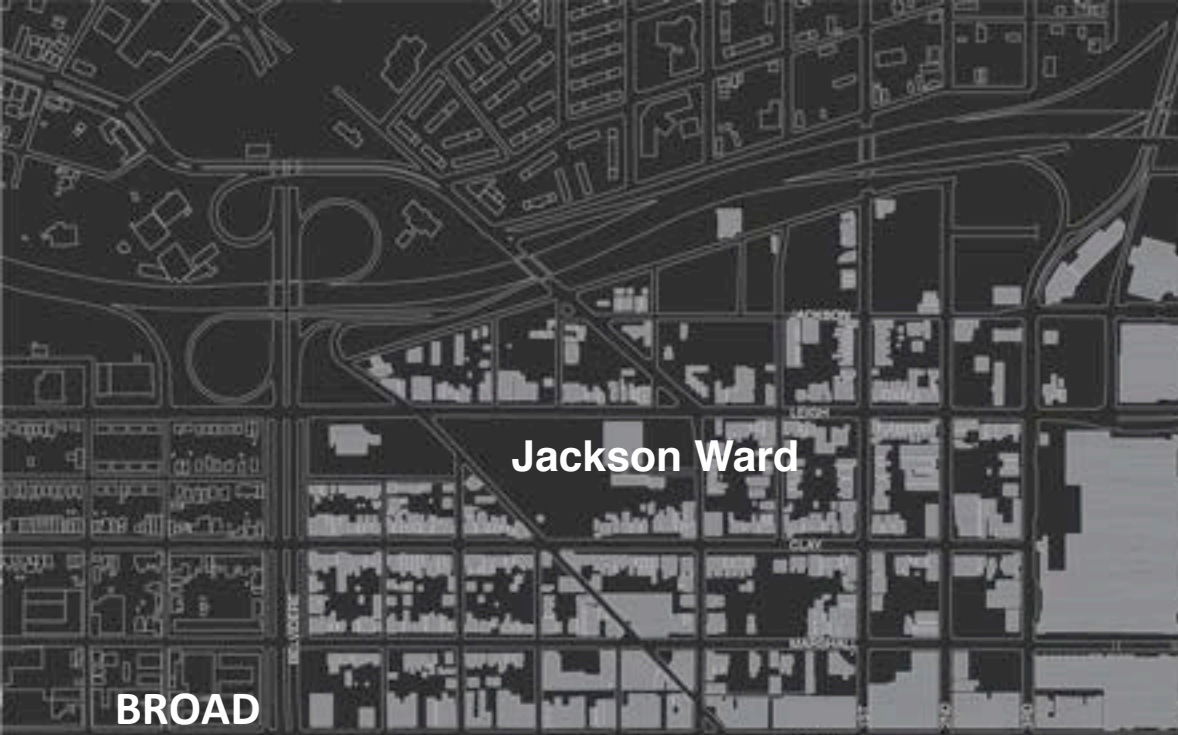


Downtown Richmond CLASS 'A' OFFICE

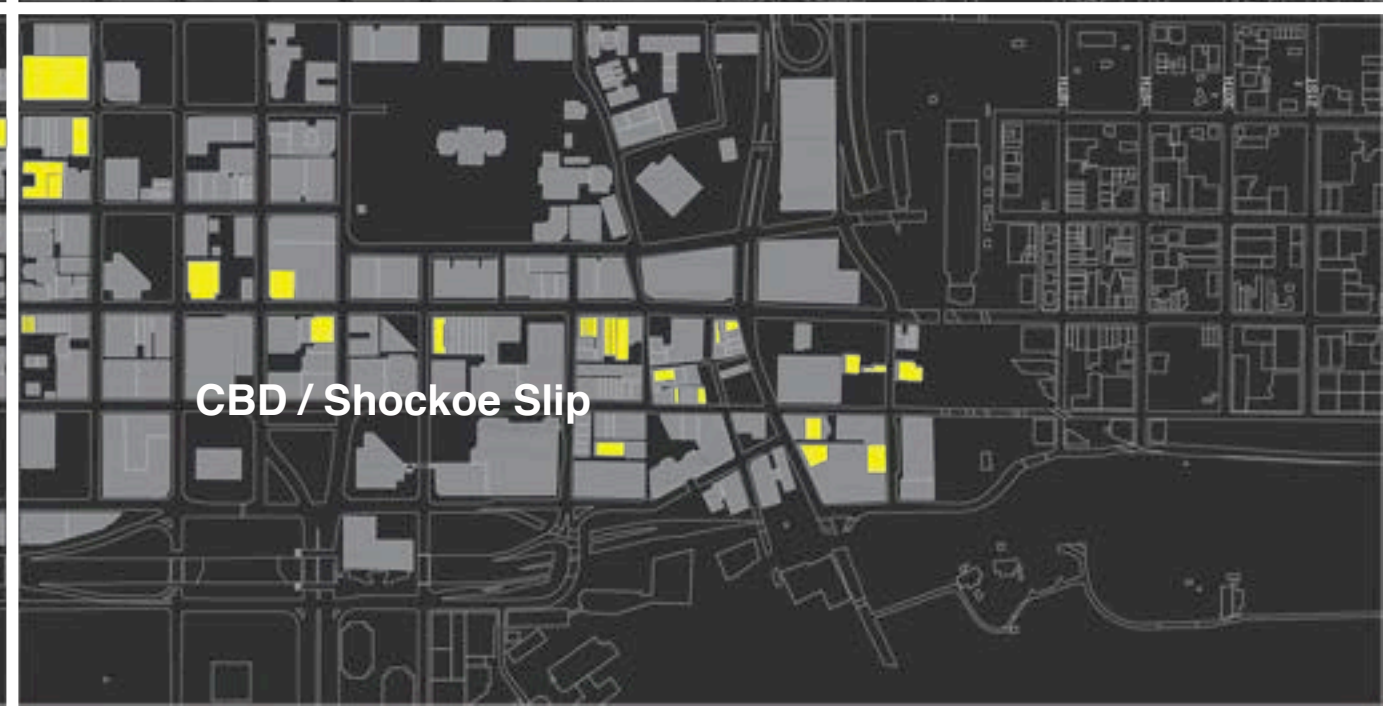
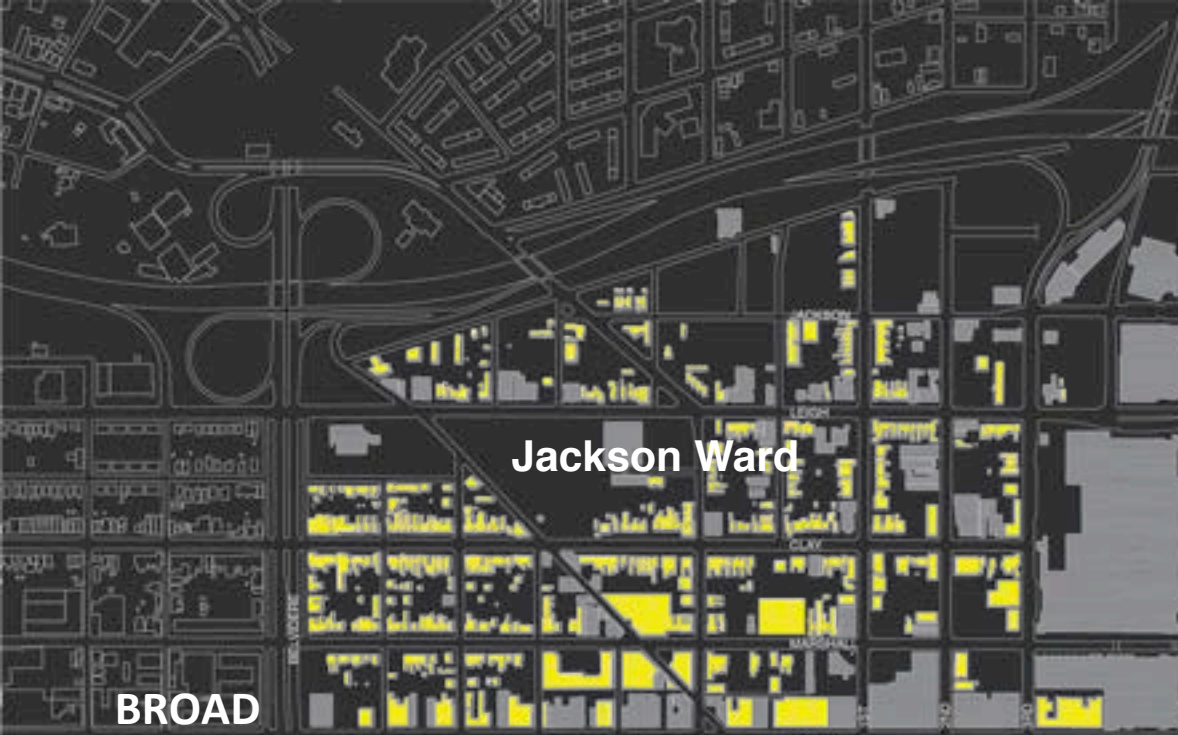












MARK S. ROSENTRAUB

# MAJOR LEAGUE LO\$ERS

THE REAL COST OF SPORTS AND  
WHO'S PAYING FOR IT

What Governments and Taxpayers Need to Know

1997

## Mark S. Rosentraub, Ph. D.

Bruce and Joan Bickner Endowed Professor of Sports Management;  
director, Center for Sport and Policy, University of Michigan,  
September 2009-present

- Program Chair, Sport Management, School of Kinesiology
- Co-Chair, Sport Management Advisory Board

Professor, Maxine Goodman Levin College of Urban Affairs,  
Cleveland State University, 2007-2009.

Dean and Professor, Maxine Goodman Levin College of Urban Affairs,  
Cleveland State University, 2001 to 2007. Chair and Director, the  
Urban University Program, State of Ohio, 2001-2007.

Director and Founder, The Ruth Ratner Miller Center for Greater  
Cleveland's Future, Levin College of Urban Affairs, Cleveland State  
University, 2002 to 2007.

Director and Founder of the Center for Urban Policy and the  
Environment, Indiana University, Indianapolis, 1992 to 1998.



MARK S. ROSENTRAU

# MAJOR LEAGUE LO\$ERS

THE REAL COST OF SPORTS AND  
WHO'S PAYING FOR IT

What Governments and Taxpayers Need to Know

1997



American Society for Public Administration  
Series in Public Administration and Public Policy

## MAJOR LEAGUE WINNERS

Using Sports and Cultural Centers  
as Tools for Economic Development



MARK S. ROSENTRAU



Copyrighted Material

2009



MARK S. ROSENTRAU

# MAJOR LEAGUE LO\$ERS

THE REAL COST OF SPORTS AND  
WHO'S PAYING FOR IT

What Governments and Taxpayers Need to Know

1997



American Society for Public Administration  
Series in Public Administration and Public Policy

## MAJOR LEAGUE WINNERS

Using Sports and Cultural Centers  
as Tools for Economic Development



MARK S. ROSENTRAU



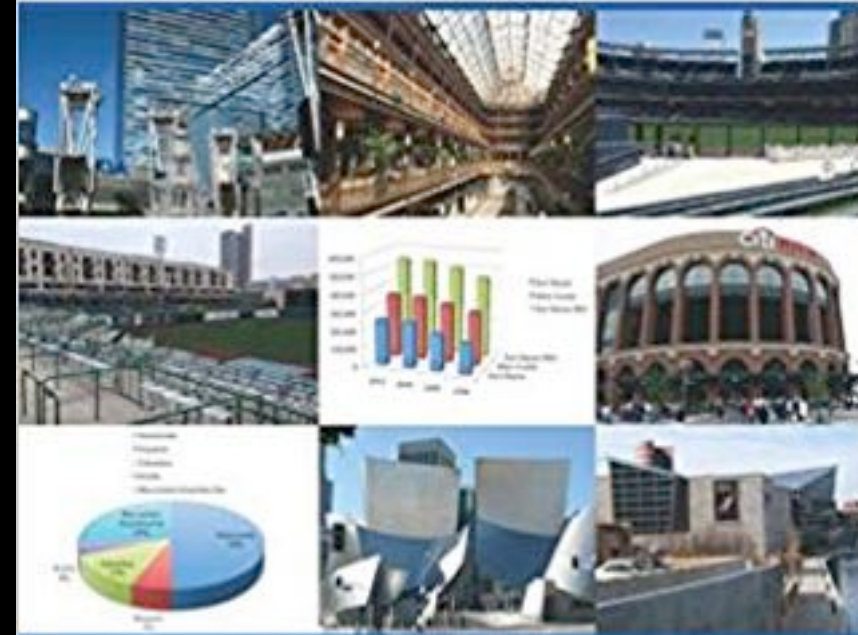
Copyrighted Material

2009

## Reversing Urban Decline

Why and How Sports, Entertainment, and Culture  
Turn Cities into Major League Winners

Second Edition



Mark S. Rosentraub



Copyrighted Material

2014



*An Overview of*  
**Arena/Stadium Anchored Development**

Prepared for Capital City Partners

University of Michigan  
Center for Sport and Policy

Arena Anchored Development Districts

Columbus





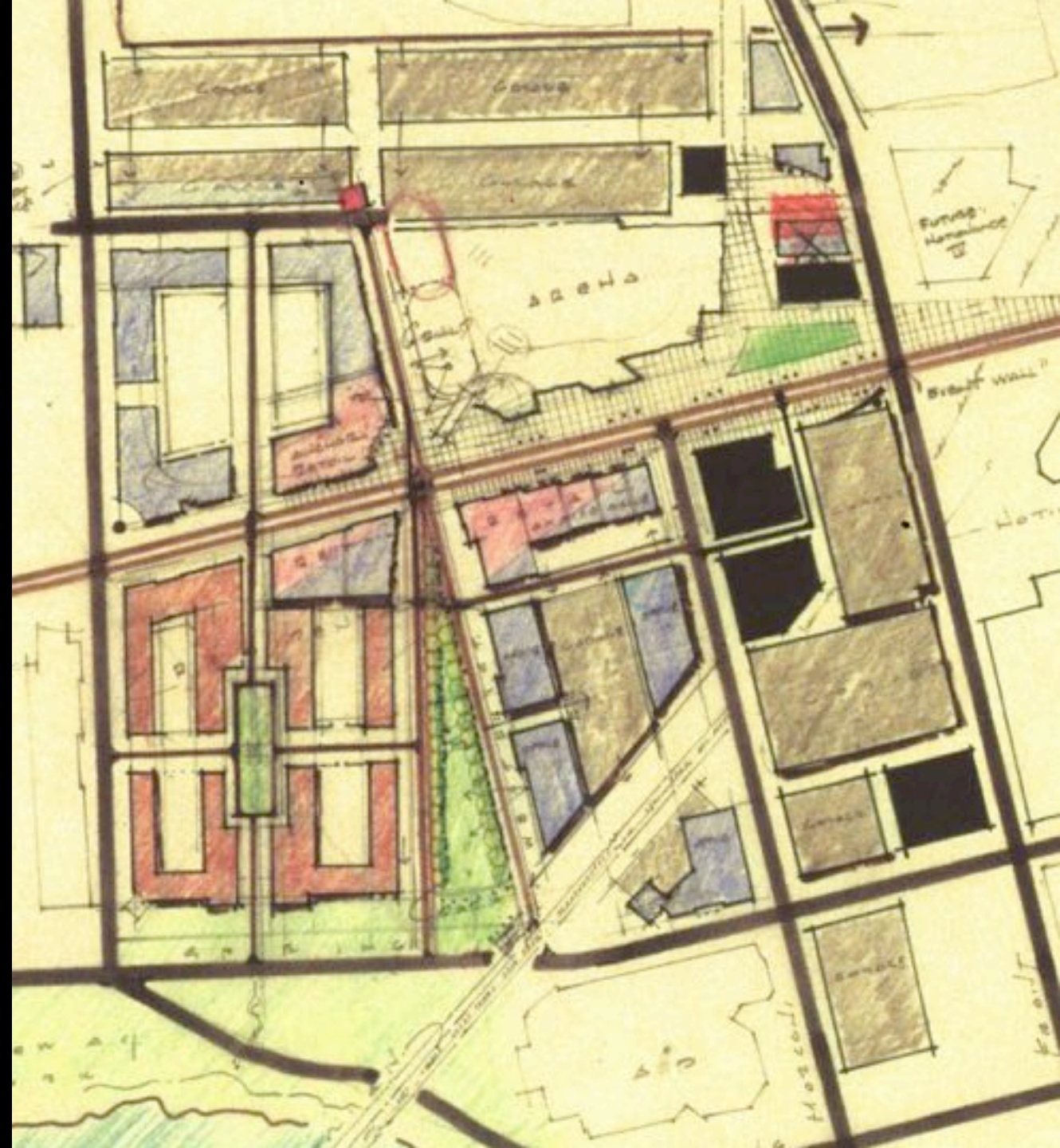
1994 Columbus

Google Earth

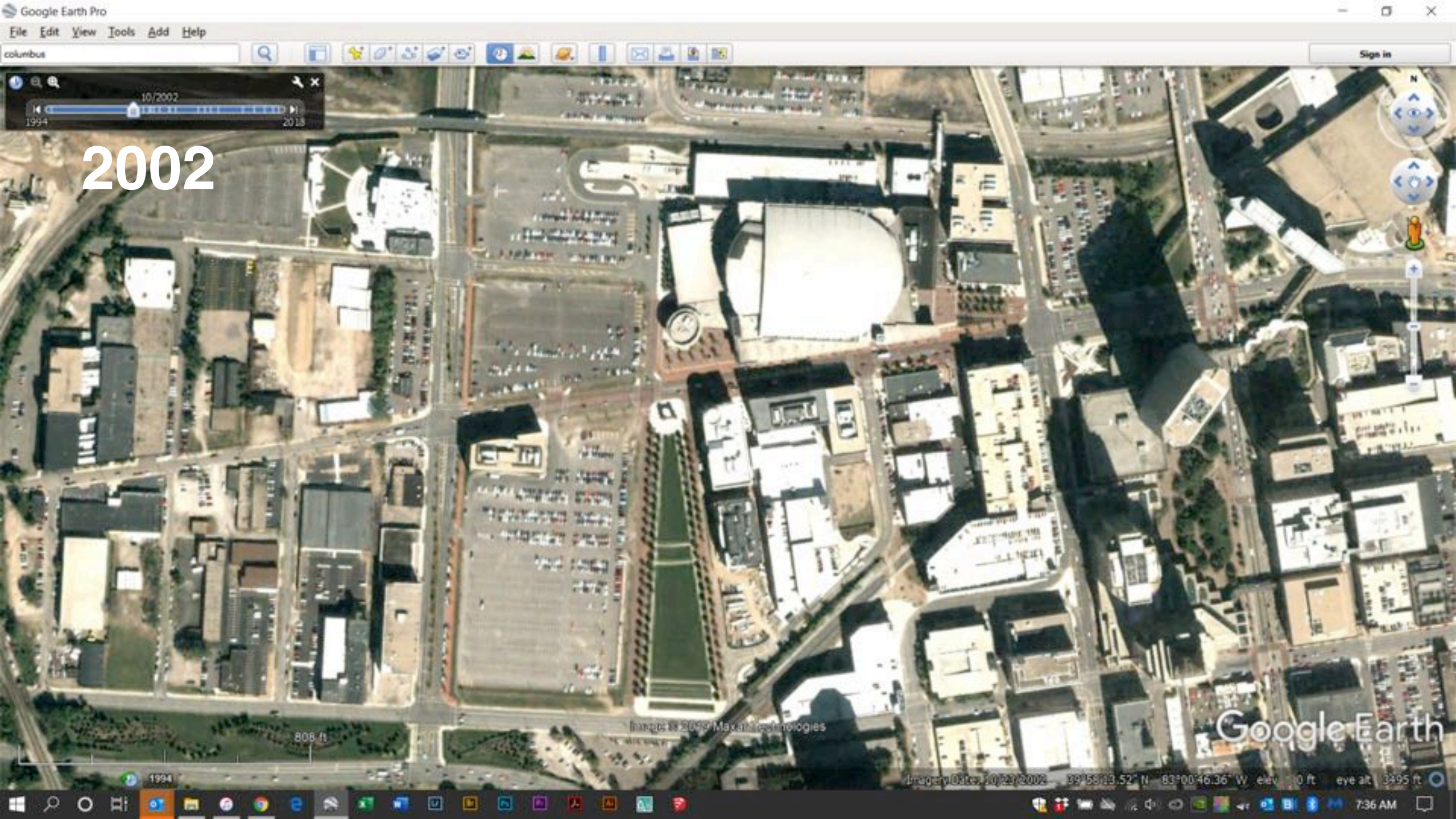


**1995** Columbus

First Arena Anchored  
District Master Plan



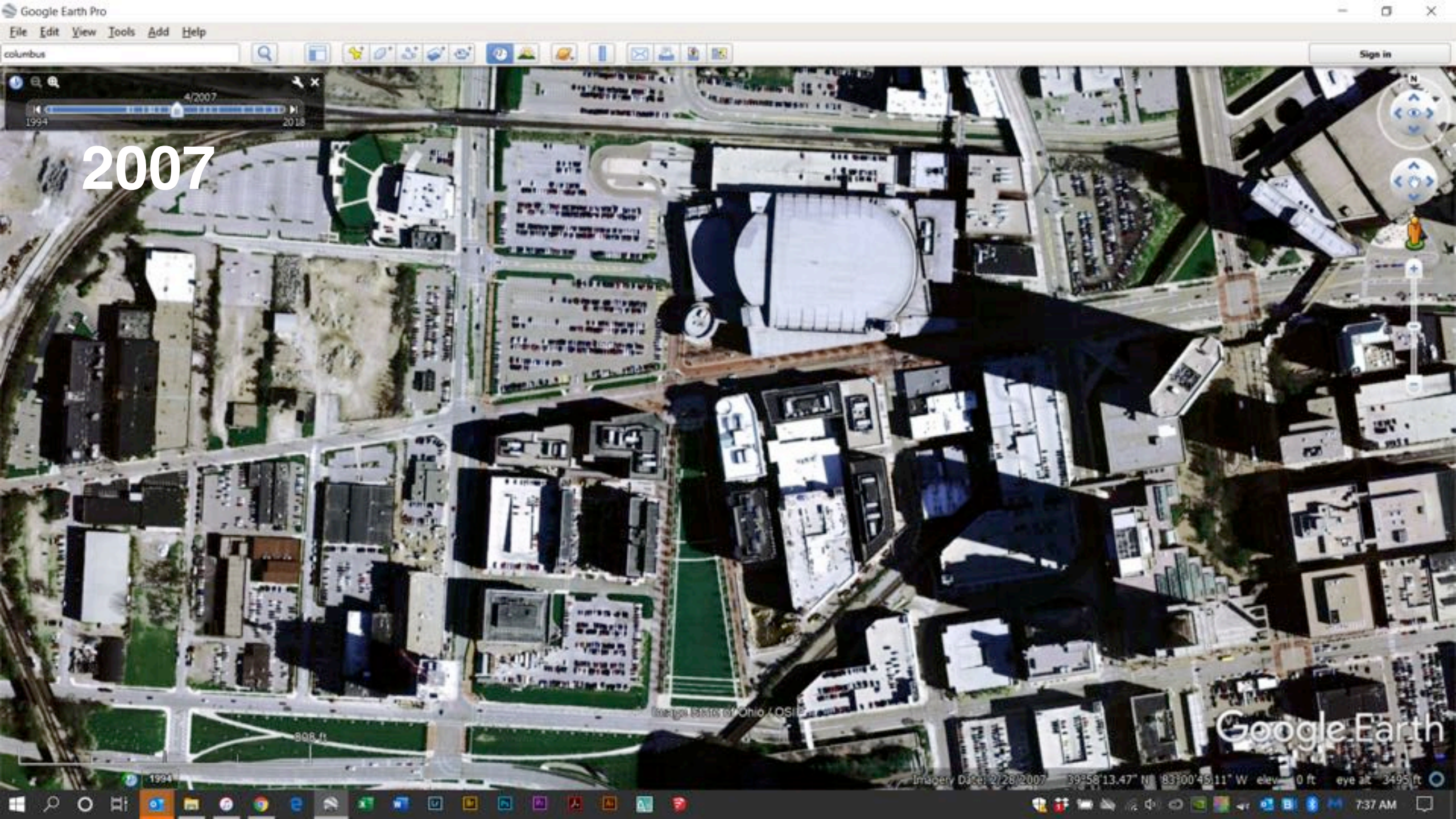




2002

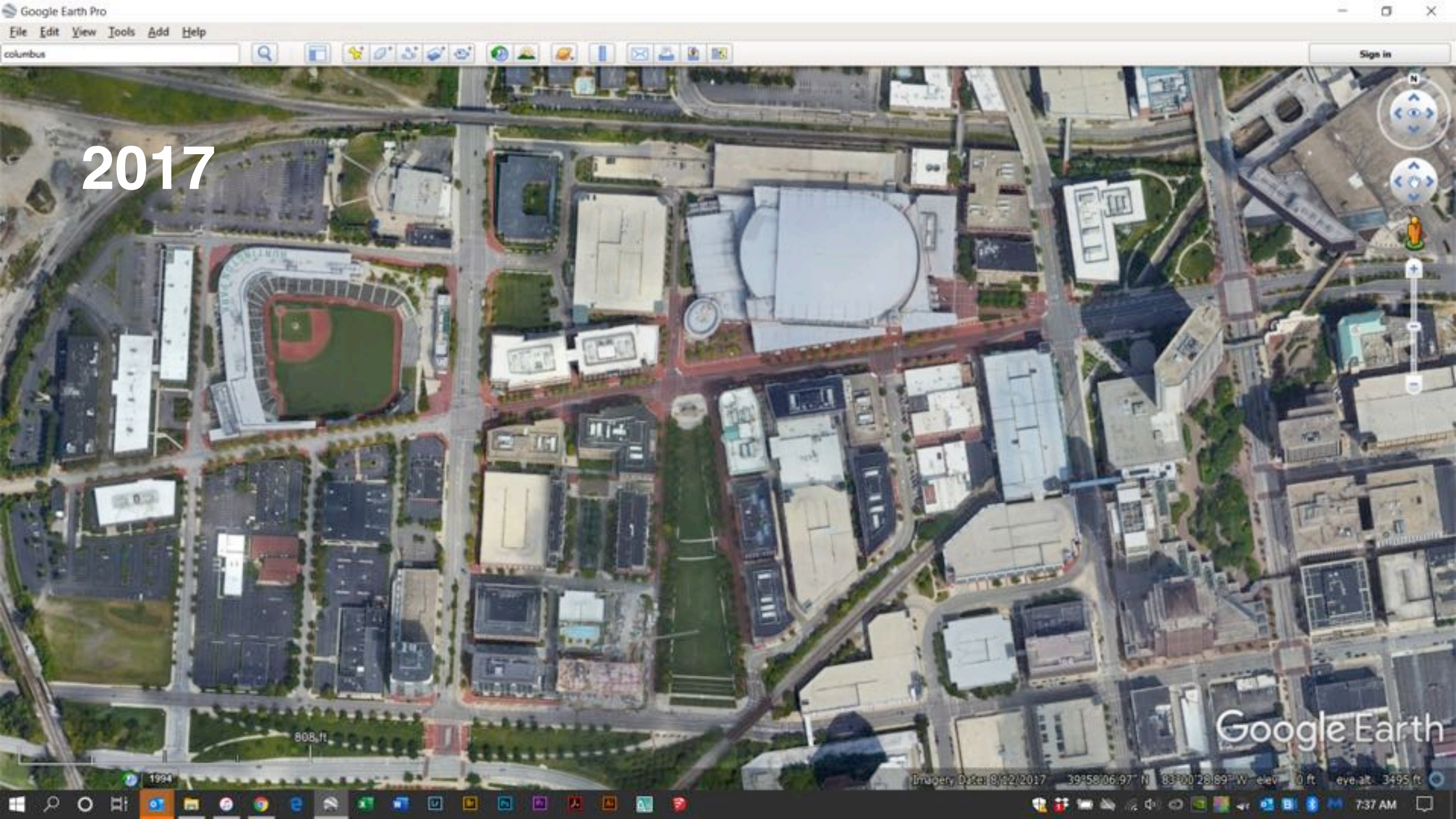
Google Earth





2007





2017

Google Earth

Imagery Date: 8/12/2017 39°58'06.97" N 83°00'28.69" W elev: 0 ft eye alt: 3495 ft



columbus ohio

Sign in



1994

39°58'23.15" N 83°00'50.40" W elev. 720 ft eye alt. 2575 ft











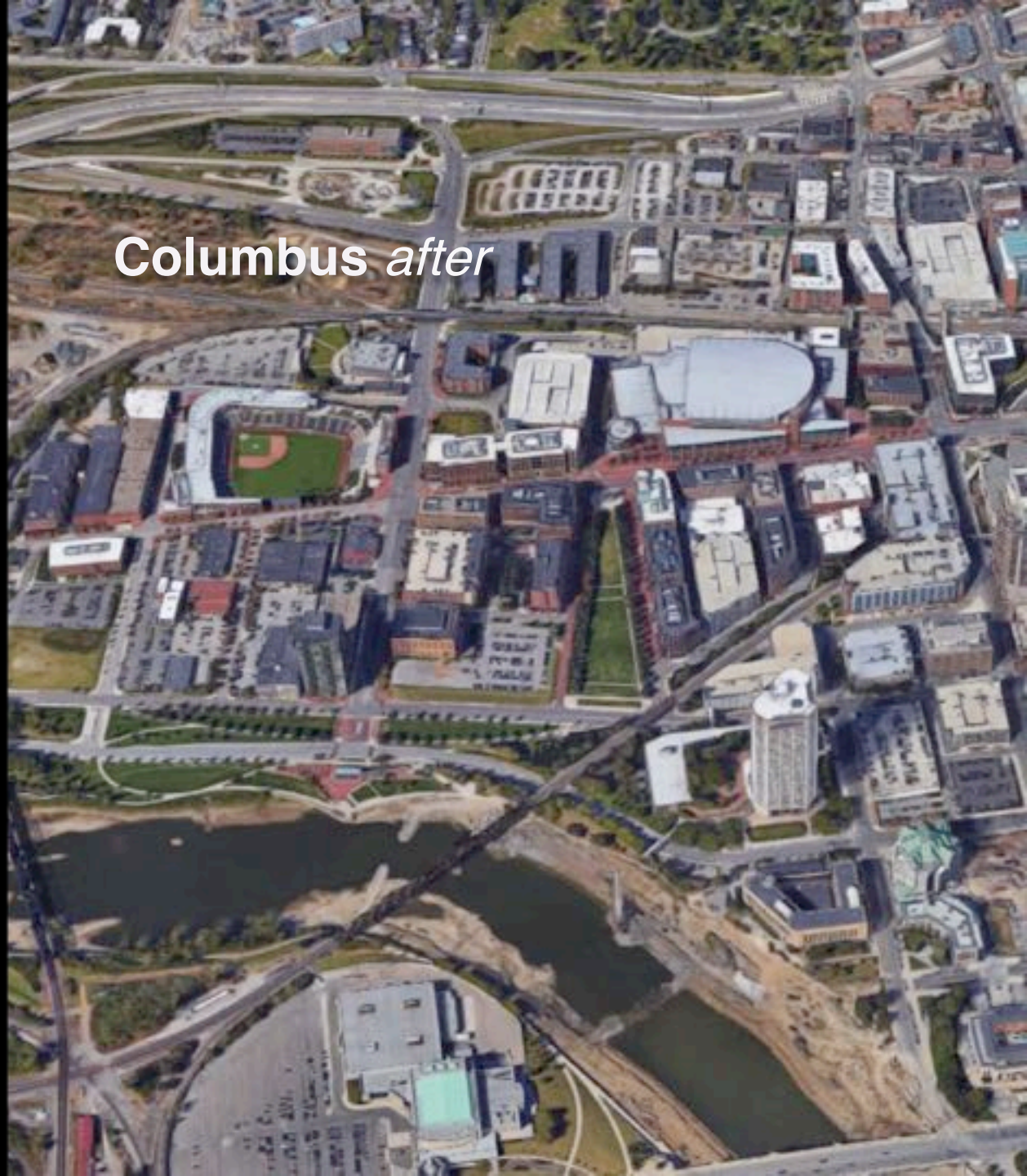
Columbus



Columbus *before*



Columbus *after*





Arena Anchored Development District

Los Angeles



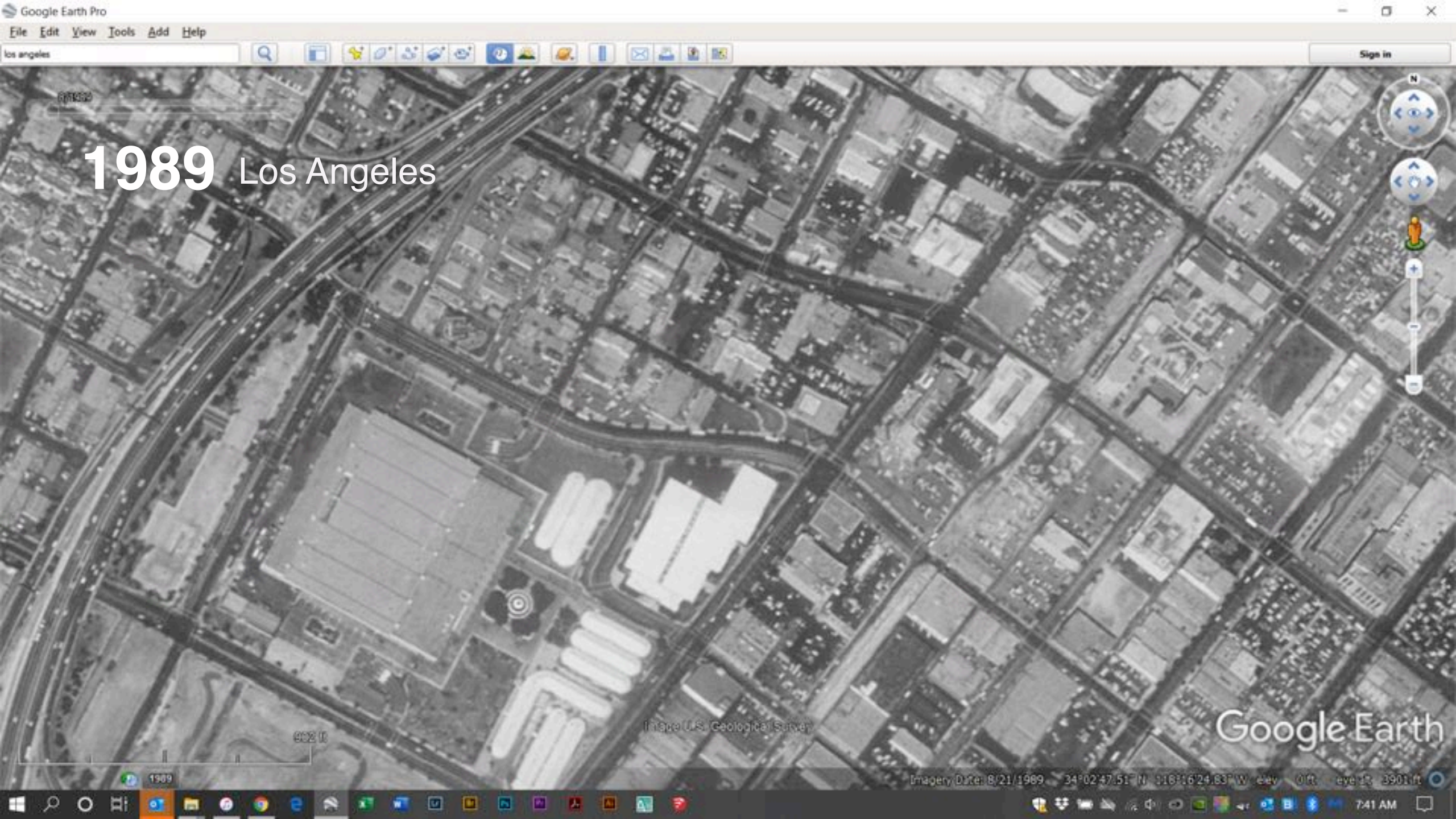
1989 Los Angeles

- Downtown Blight
- Losing corporate relocation, tourism and prestige to other communities
- Needed to restore Downtown as the most exciting place

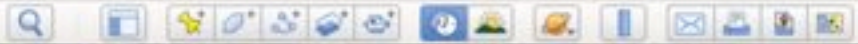
Google Earth

Imagery Date: 8/21/1989 34°02'47.51" N 118°16'24.83" W 44v 0ft eye 17 3901ft





los angeles



Sign in

1989 Los Angeles

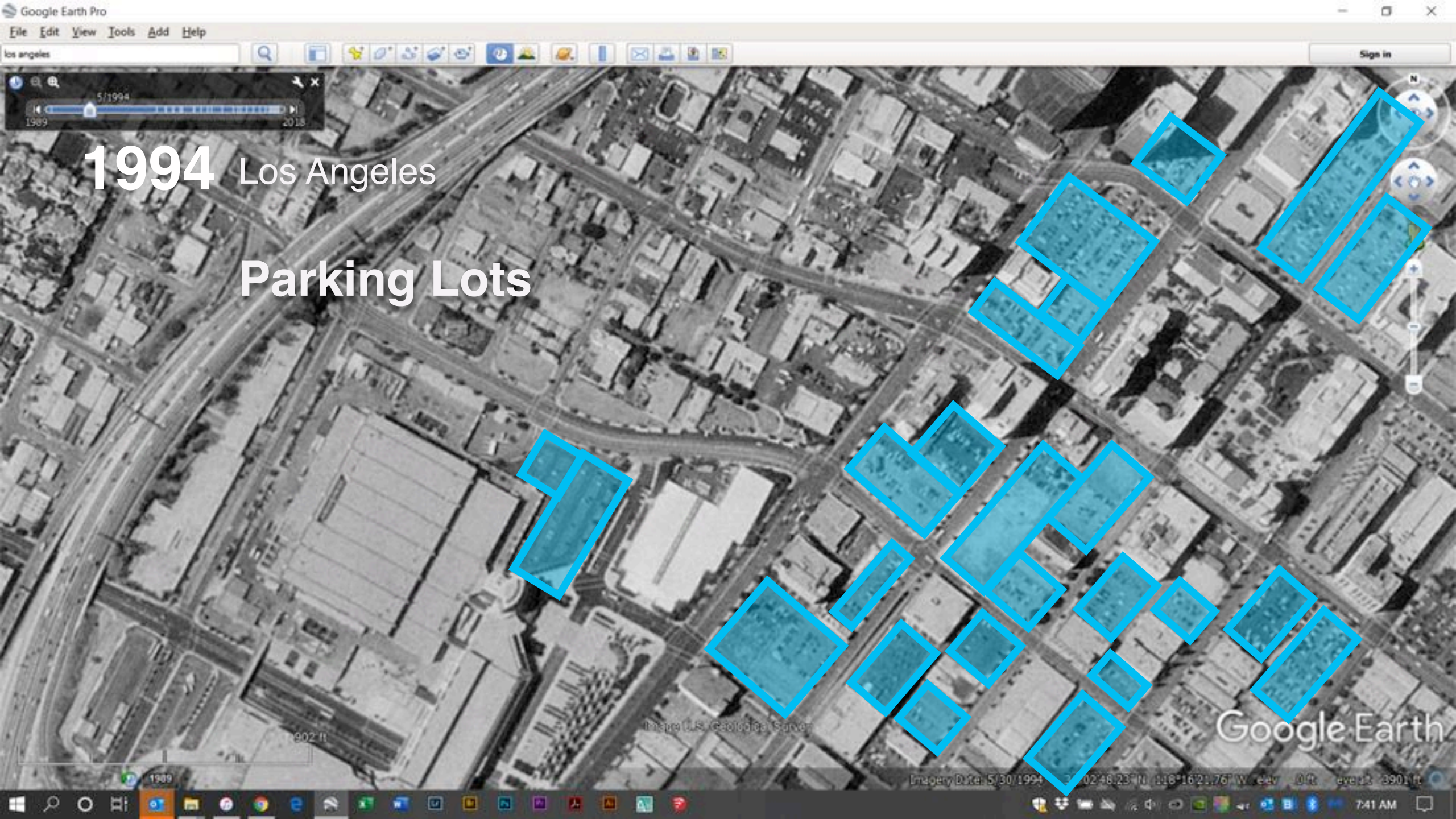


Image U.S. Geological Survey

Google Earth

Imagery Date: 8/21/1989 34°02'47.51" N 118°16'24.83" W elev 0ft eye 17,390ft

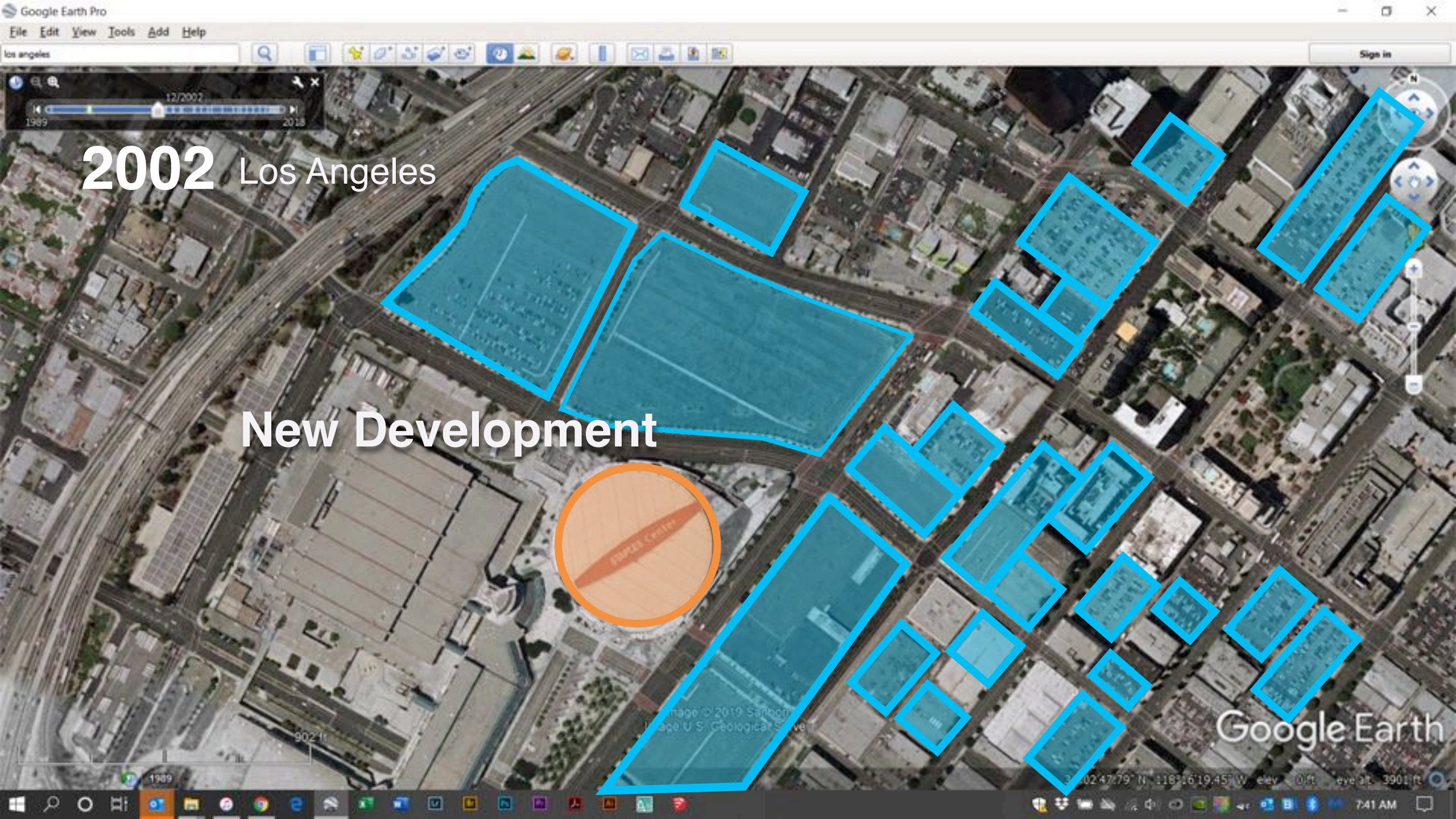




1994 Los Angeles

Parking Lots



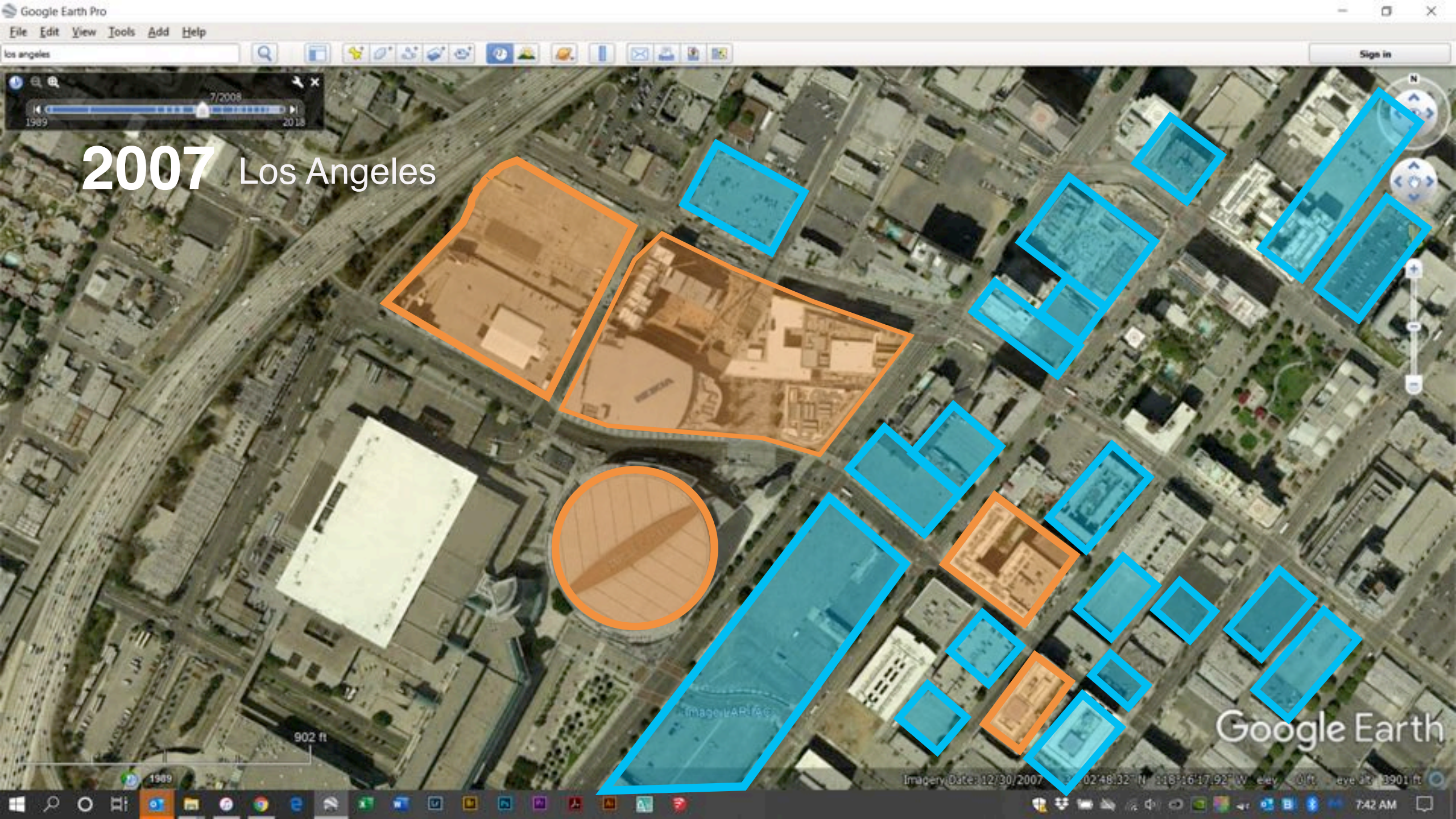


2002 Los Angeles

New Development

Google Earth

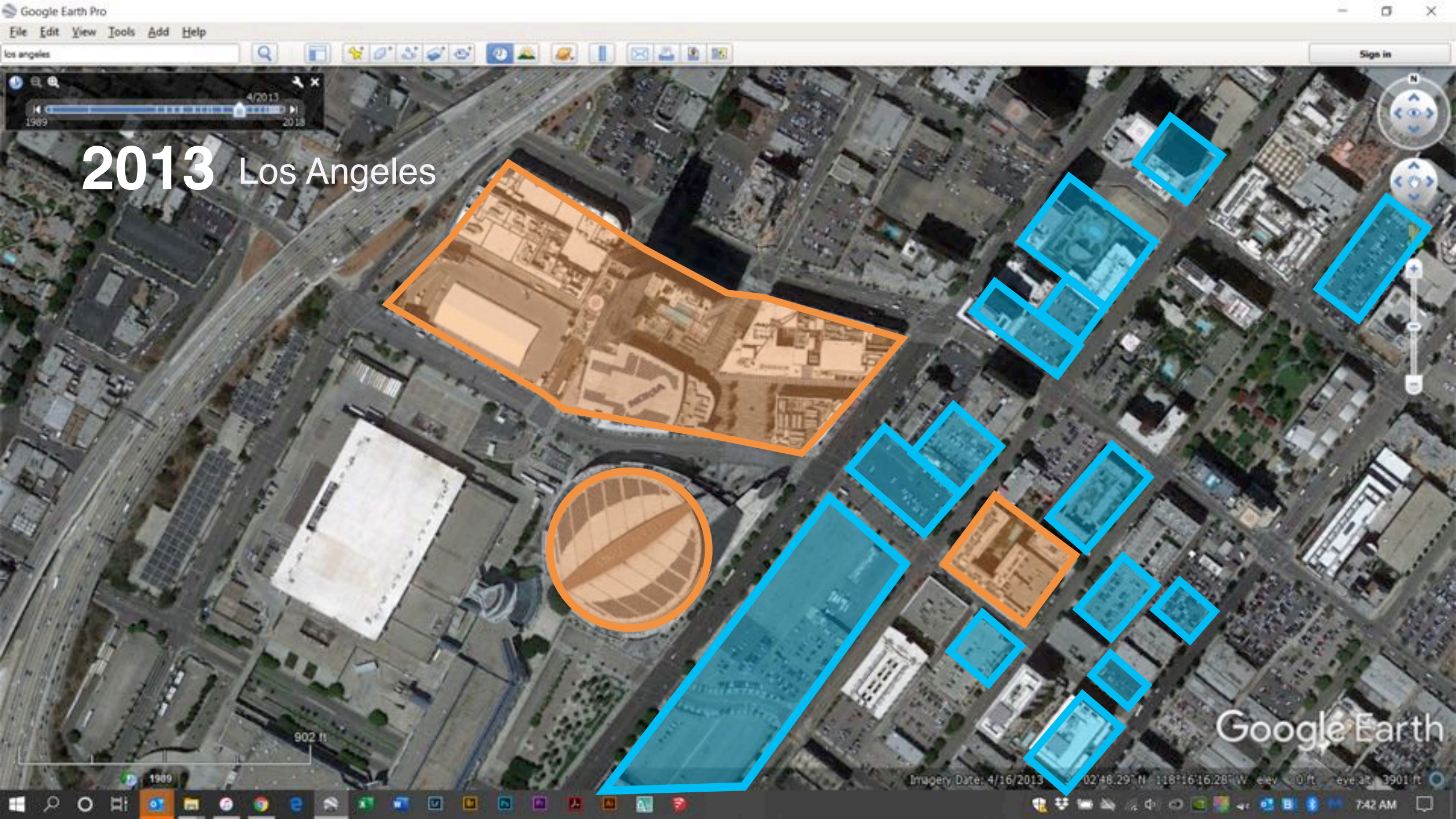




2007 Los Angeles

Google Earth

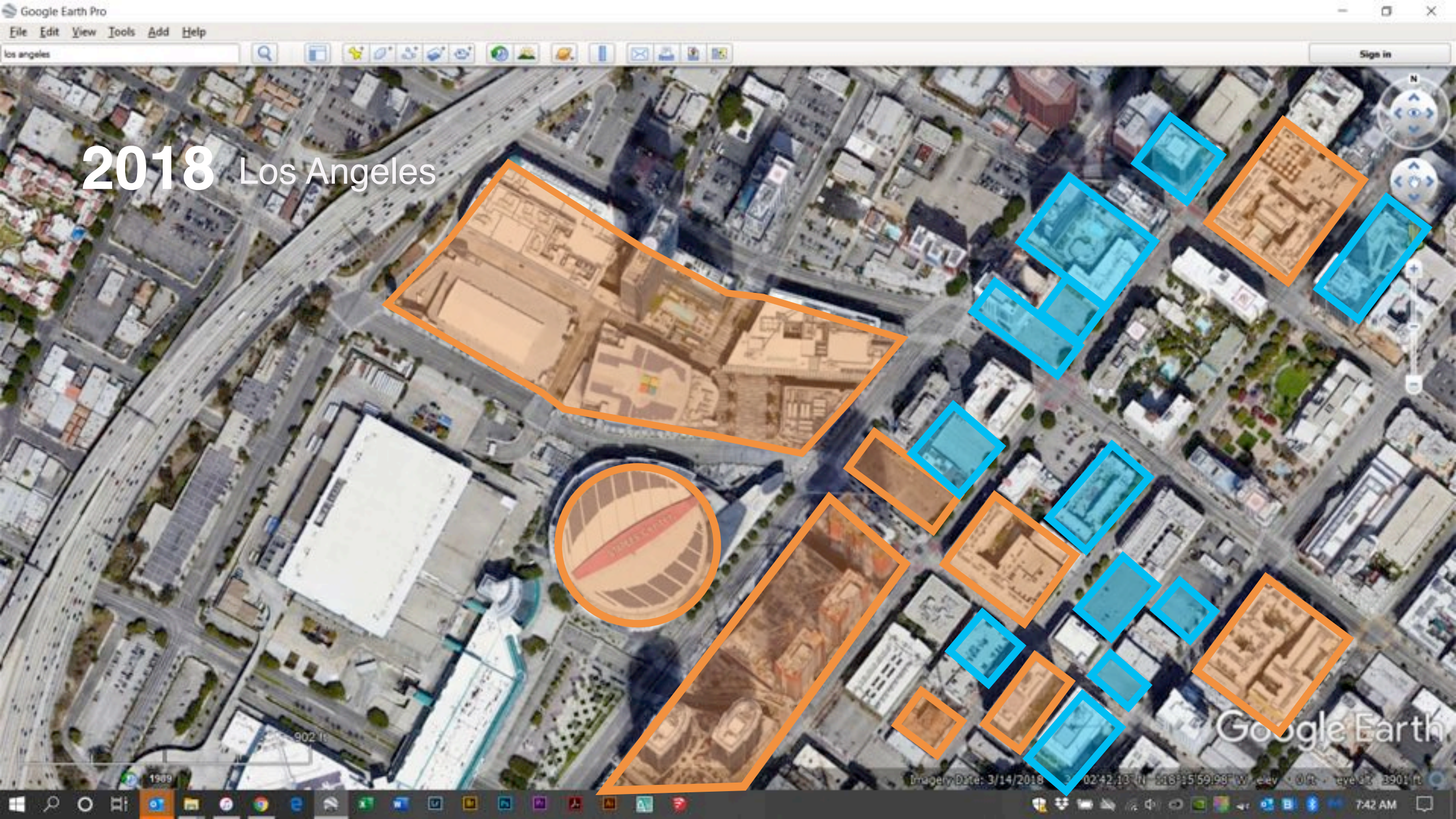




2013 Los Angeles

Google Earth





2018 Los Angeles

Google Earth

Property Date: 3/14/2018

02:42:13 N 118:15:59.98 W, elev: 0 ft, eye: 3901 ft

7:42 AM



Los Angeles







Los Angeles

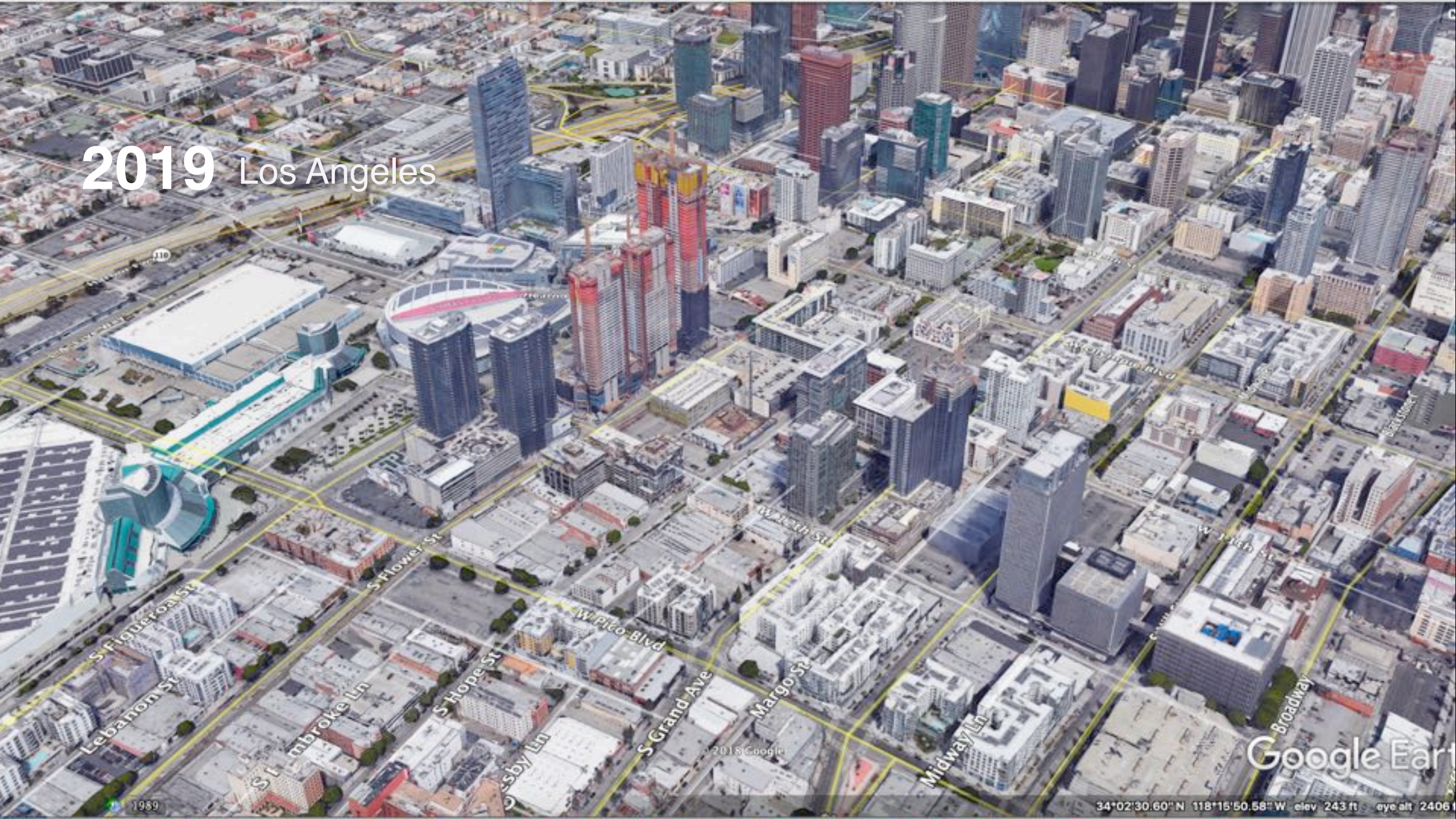




Los Angeles



2019 Los Angeles



Google Earth

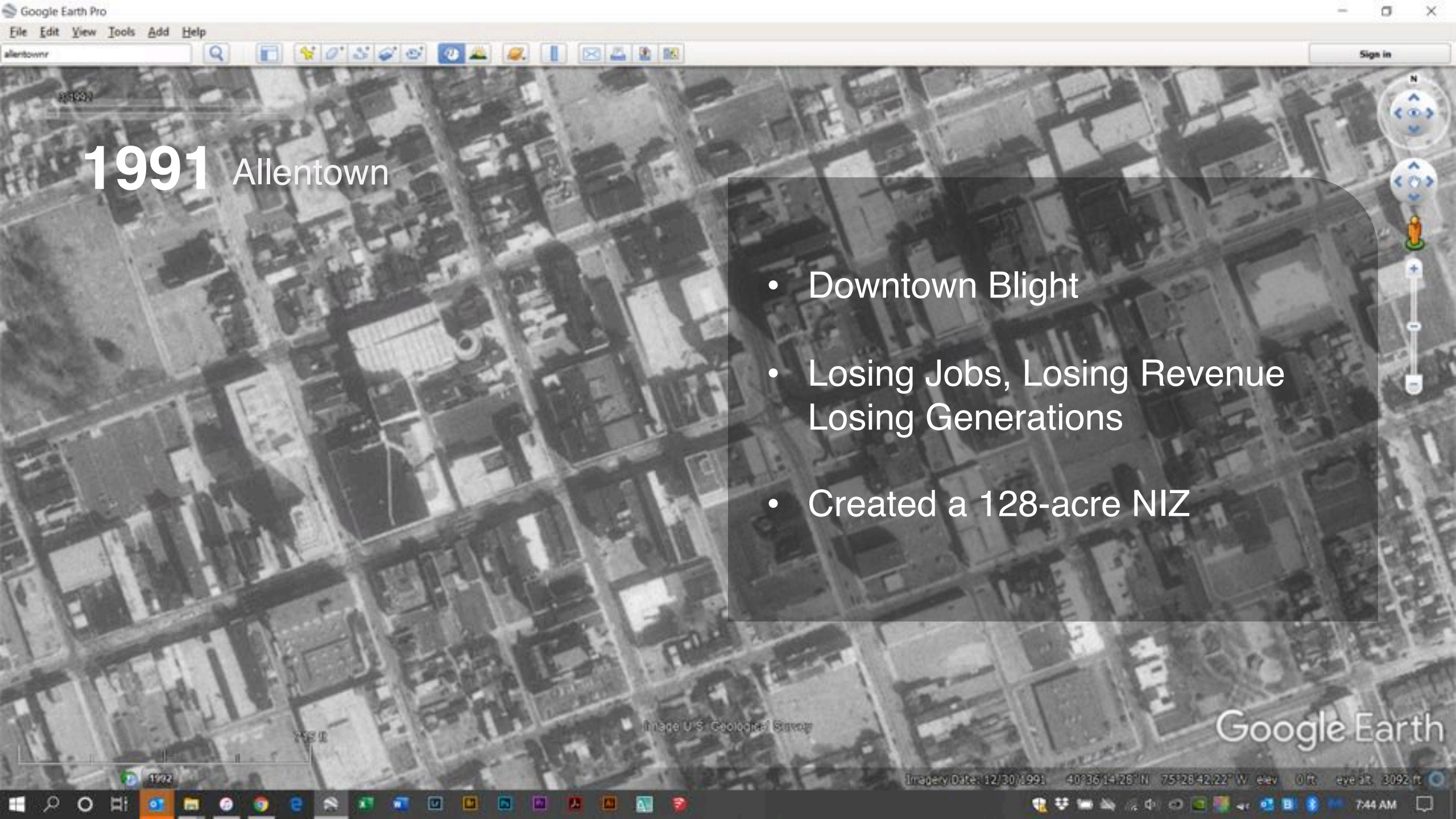
34°02'30.60"N 118°15'50.58"W elev 243 ft eye alt 2406 ft



Arena Anchored  
Development Districts

Allentown





1991 Allentown

- Downtown Blight
- Losing Jobs, Losing Revenue  
Losing Generations
- Created a 128-acre NIZ

Google Earth

Image Date: 12/30/1991 40°36'14.26" N 75°28'42.22" W elev 0 ft eye alt 3092 ft



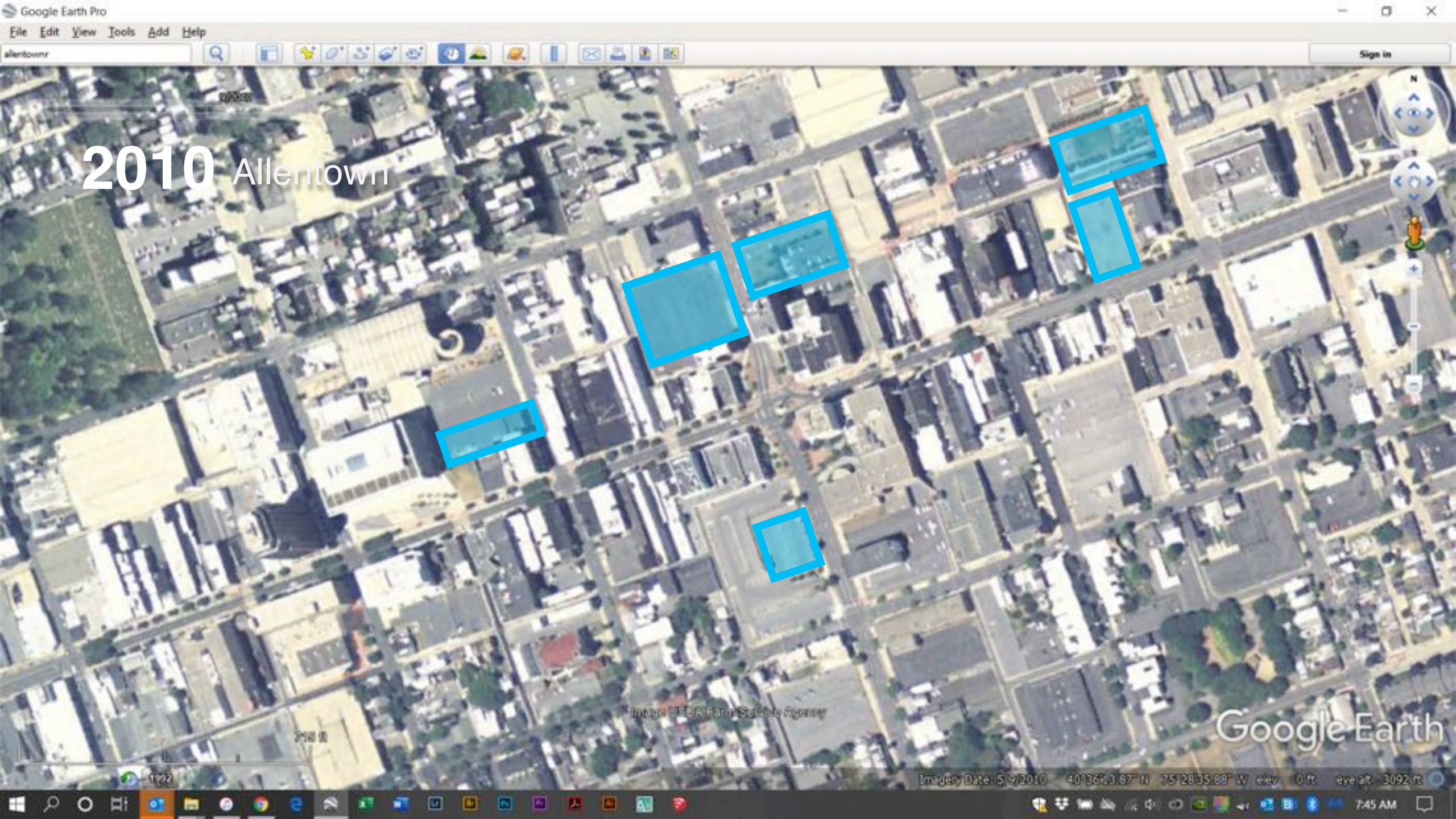


1991 Allentown

Google Earth

Image Date: 12/30/1991 40°36'14.26" N 75°28'42.22" W elev 0 ft eye alt 3092 ft





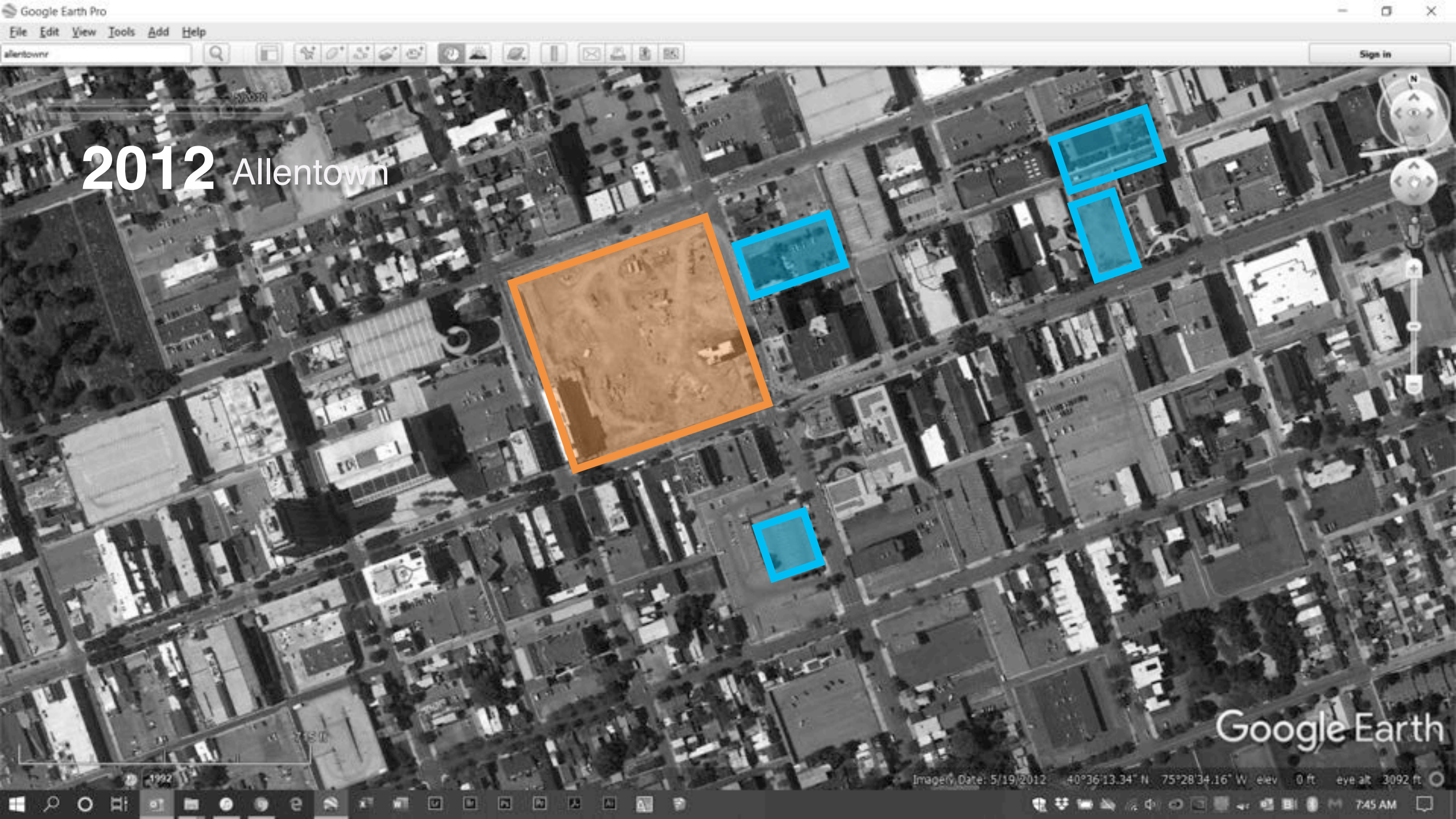
2010 Allentown

Google Earth

Imagery Date: 5/9/2010 40°36'13.87" N 75°28'35.83" W elev. 0 ft. eye alt. 3092 ft.

7:45 AM





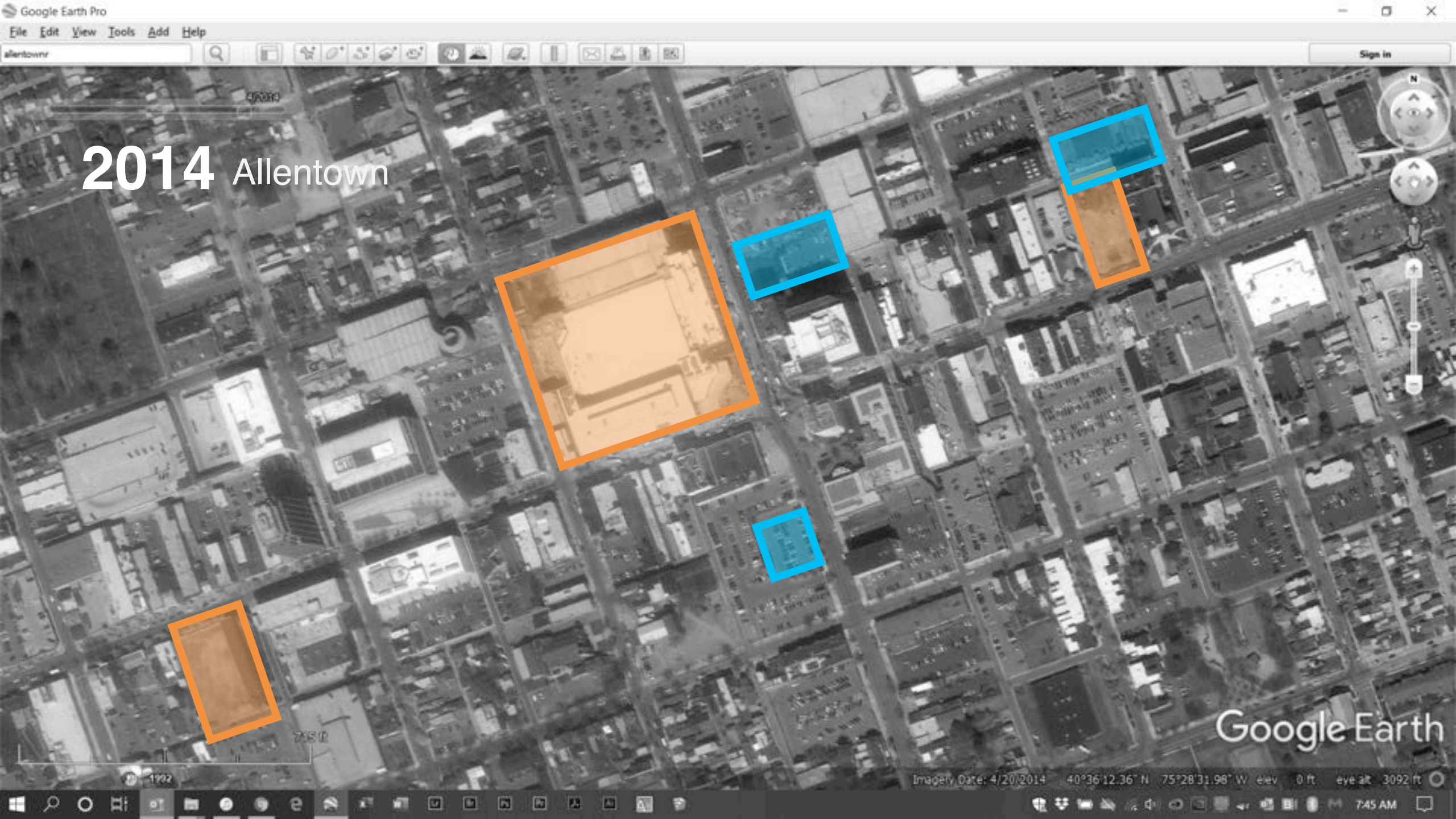
2012 Allentown

Google Earth

Imagery Date: 5/19/2012 40°36'13.34" N 75°28'34.16" W elev 0 ft eye alt 3092 ft

7:45 AM





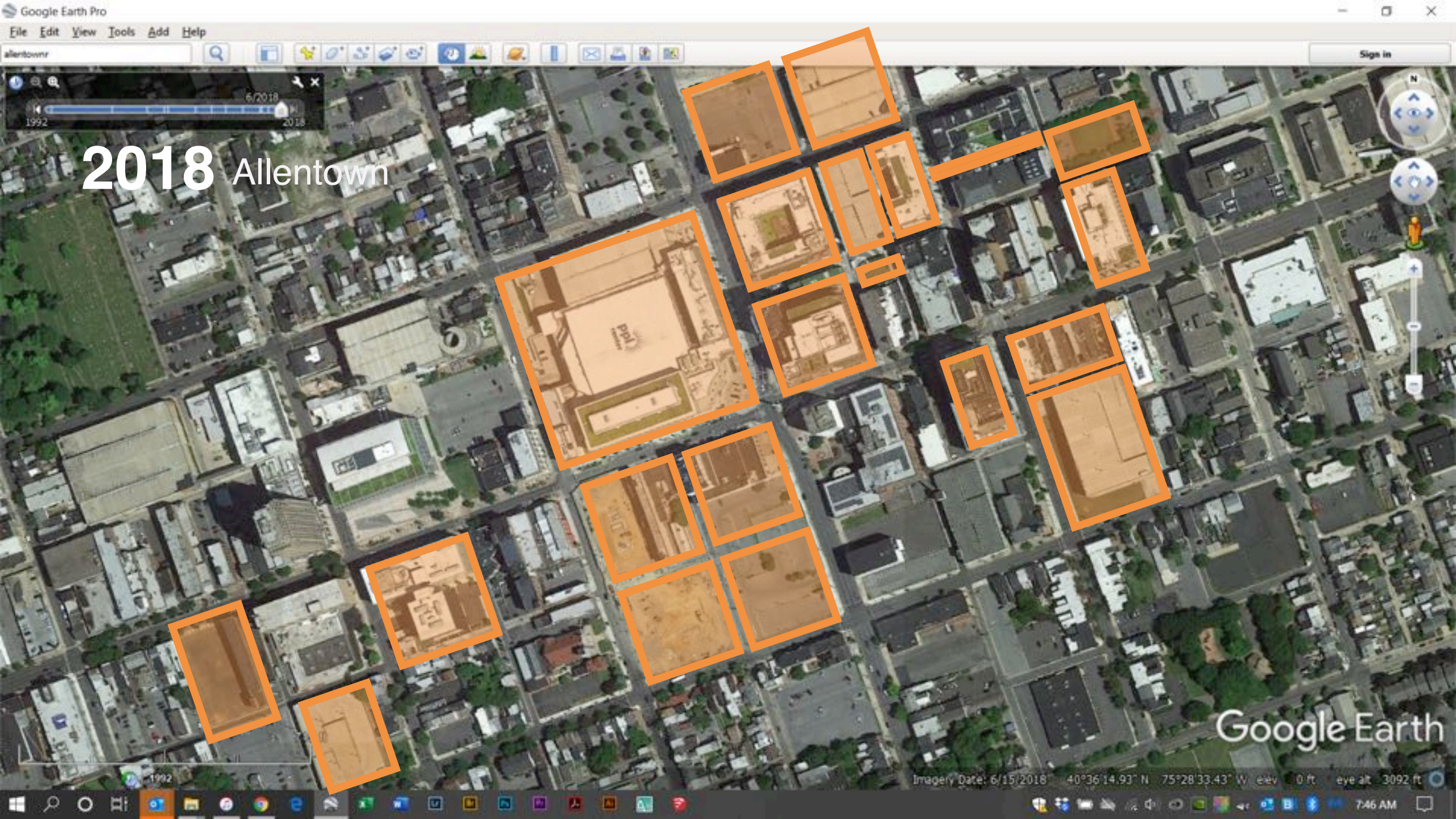
2014 Allentown

Google Earth

Imagery Date: 4/20/2014 40°36'12.36" N 75°28'31.98" W elev 0 ft eye alt 3092 ft

7:45 AM





2018 Allentown

Google Earth



Allentown



BEFORE



Allentown



AFTER

Play (k)



Allentown

Colonial BARBER SHOP

BEFORE



Allentown



AFTER



Allentown



BEFORE



Allentown



AFTER



Allentown



BEFORE



Allentown

AFTER



## *Allentown Results:*

Allentown Became the fastest Growing City in Pennsylvania

\$600 Million in New Development

2,200 Workers relocated back to Downtown

In 2016 / 2017 the NIZ generated more than \$80M/ year in  
2 to 3 X debt service coverage

AFTER





**Why Navy Hill Will Not Recreate itself**





Block **A**

Block **B**

Block **C**

Block **D**

Block **E**

Block **F**

Block **I**





2003 Richmond

Navy Hill development sites

Google Earth

Imagery Date: 6/5/2003 37°32'59.39" N 77°26'08.42" W elev. 147 ft eye alt. 5423 ft





2019 Richmond

Navy Hill development sites



# Scott's Addition 1994

6 Miles of Streets  
Intact Parcels  
200 + Buildings  
Some Residential  
Mostly Industrial

Boulevard

West Broad

Image U.S. Geological Survey

Google Earth



# Scott's Addition 1994

6 Miles of Streets  
Intact Parcels  
200 + Buildings  
Some Residential  
Mostly Industrial

Boulevard

West Broad

Google Earth



# Scott's Addition 2019

6 Miles of Streets  
Intact Parcels  
Affordable Buildings  
Adaptable Buildings  
Infill Residential

Arthur Ashe Boulevard

West Broad

Google Earth

1994

Imagery Date: 5/3/2018 37°34'33.64" N 77°28'08.34" W elev. 206 ft eye alt 5666 ft





## Why Navy Hill Will Not Recreate itself:

Infrastructure is required for new development.  
it cannot happen one block at a time

The area has been dramatically altered and beyond the  
resources of one-off developments

Must be a 'known development environment'

Developable parcels no longer exist

Good Planning is the essence of good City-Building

The City's ultimate leverage is in a coherent plan







